MEDICAL SUPERVISION IN SCHOOLS

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BEING

AN ACCOUNT OF THE SYSTEMS AT WORK IN GREAT BRITAIN, CANADA, THE UNITED STATES, GERMANY, AND SWITZERLAND

BY

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PREFACE

AT the urgent request of a number of members of the medical profession, schoolmasters, and others, to whom the medical inspection of school-children is of special interest, to publish a work dealing with this very important subject, I feel justified in braving the elements of criticism and possible condemnation by presenting a succinct account of the methods adopted in Great Britain, Canada, the United States, Germany, and Switzerland. Having been appointed by the Government of South Australia a commissioner to inquire into this matter in these countries, a great deal of valuable information has necessarily been acquired. Much of this is probably already known to many who are engaged in the work of inspection, but a great deal will be foreign to the majority anxious to gain a knowledge of the subject.

I have adopted a somewhat unusual method of dealing with the question, by treating each town or district separately, and have refrained as far as I considered reasonable from repetition, only resorting to this expedient when an important point seemed worthy of emphasis.

While acknowledging that there may be many discrepancies and points open to criticism in submitting a book on "Medical Supervision in Schools," I do not contend that there are many subjects in this work that have not already received the attention of several very able writers. The whole question being of recent growth and still in its earlier stages of development, my purpose is

to contrast the different methods employed in different parts of the world; to indicate as clearly as I possibly can the forms used in the various countries visited; to eliminate certain of these forms which appear to me to be unnecessary, and to curtail others which err on the side of elaboration.

I have to thank all the medical officers and others who assisted me during my travels, particularly those mentioned in connection with the towns and countries enumerated.

E. M. S.

June, 1910.

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MEDICAL SUPERVISION IN SCHOOLS

CHAPTER I

THE ORIGIN AND PURPORT OF MEDICAL INSPECTION

"Life is merely froth and bubble;
Two things stand like stone—
Sympathy in others' trouble,
Courage in your own."

ADAM LINDSAY

THUS graphically expressed in the words of our most famous Australian poet are the sentiments and feelings of every medical man who has the interests of his profession at heart.

He is during the course of his career brought into contact with life in all its phases and stages. He sees and realizes the depredations into the constitutions of the gourmand brought about by injudicious dieting and over-indulgence, and he cannot fail to recognize the sad condition of affairs which may be found among the poor wrecks of humanity who are drifting along life's highway into the great unknown, their bodies one mass of disease, the result of poverty and lust.

"The sins of the fathers shall be visited upon the children, even unto the third and fourth generation." This pathetic prediction, written thousands of years ago, is amply manifested by innumerable occupants of our present-day schoolrooms. It was on account of the increasing mortality amongst our children, the undermining of their constitutions through neglected ailments, the impoverishment of their bodies on account of starvation, that several far-seeing

physicians realized the necessity for establishing on a sound basis a system of medical supervision.

Like all forms which have been ultimately recognized as necessary for the well-being of the nation, these proposals were regarded as bordering on faddism, and a direct interference with the liberty of the subject by depriving the family physician of his just rights and privileges.

In precisely the same way important discoveries, even in the medical profession, have been treated with derision.

Origin of Medical Inspection.

It is not so many years ago that Lord Lister had to combat, not only severe opposition, but unqualified prejudice, when he advocated the use of antiseptics in surgery; yet to-day the whole basis of modern treatment is a battle against micro-organisms.

It is obvious that if children are to become useful citizens of the Empire their bodies must be cared for. The trend of civilization from time immemorial has been towards a degeneration in the physical condition of the race, and it behoves every parent—not only on account of his parental obligations, but because of his duty as a citizen—to see that his progeny are protected from the ravages of disease.

The Education Act, which has been compulsory for nearly forty years, has undoubtedly led to an enlightenment of the people, but we cannot expect a profit by this inestimable boon without some compensatory penalties. Previous to the passing of the Act the use of spectacles amongst children was comparatively unknown—whether entirely due to the overstrain which is entailed during a child's school life or to the earlier recognition of the defects, it is difficult to say. Assuming that the former is the cause, it behoves the nation to remedy the defect, and on it must lie the responsibility.

The battle which has been waged for and against medical supervision in our schools for nearly twenty years is practically over. Medical men now realize that such a system, irrespective of treat-

ment, does not in any way interfere with the work of the general practitioner, but, on the contrary, rather tends to facilitate it by the earlier recognition of the presence of disease. The legislator, who is the elect of the people, should no longer talk about the State assuming parental responsibilities.

The snowball has reached enormous proportions, and every nation throughout the civilized world has come to recognize that it is a duty which it owes to the rising generation to see that nothing is left undone whereby they may become useful citizens.

The almost universal adoption of the system is an overwhelming proof that the scheme originally suggested was by no means a visionary one. The rays of hope, due to the awakening of the people, are shining over the horizon, and the silver lining of the black cloud of prejudice and unjust criticism is bursting into the bright sunshine of intellectual enlightenment. Very few are desirous of returning to the primitive condition of our forefathers, and if the penalties of civilization are to be a tax upon the constitutions of our children, such degeneration must at least be retarded. The old ideas of empiricism in treatment have to a great extent been abandoned to the scientific discoveries of recent years.

Objects.

The objects of medical inspection must be recognized as totally distinct from medical treatment, although the one cannot, and must not, be dissociated from the other.

The first important point is the early recognition of the present physical defects. Thousands of children to-day are suffering from undiscovered ailments, which will only become of serious moment when they reach the age of puberty if left untreated. These are to be found in errors of refraction, certain malformations of the body, due to children assuming abnormal positions, certain conditions of the nose and throat, etc.

The second point, of equal importance, is to recognize amongst children certain of these who must be prevented from attending

school owing to physical unfitness. Education may be, and is, a necessity, but it is our duty to see that the body is physically fit to absorb it.

As a corollary to this, we must protect the majority from any who may suffer from a physical defect. The imitative faculty handed down from our progenitors, the anthropoid apes, according to Darwin, is very pronounced in children, who are notoriously uninitiative, but facile in imitation. This is instanced in the case of a stuttering child, and may be seen should hysteria occur in any children's ward in a hospital.

Then, we have the early recognition of infectious disease and the exclusion from school which is necessary to prevent its spread, to see also that all such cases are traced and every precaution taken. The English Public Health Act has for a number of years required the compulsory notification of infectious disease. To carry this to its logical conclusion such must first of all be recognized, and if not investigated, the probabilities are that many cases will remain undetected, and the Act thus rendered futile.

Further, it is hoped that contagious skin affections will be materially reduced by being brought under proper control, and the great medical bugbear of modern elementary school life (pediculosis) may be at least, if not eradicated, brought to a stage where it may be recognized and its spread prevented.

Before the Act was introduced for the medical inspection of schools in England, Scotland, America, and Germany, investigations were instituted with a view to ascertaining whether or not a systematic system was really necessary. The result was that, on careful inquiry, an enormous number of children were found to be defective, and since the Acts have been enforced the increasing attendance at school has shown a decided improvement. The consensus of opinion is practically a unanimous one, as the benefits which have already accrued are only too patent, and it is merely a matter of further improving the system to make it one of universal adoption amongst civilized races, as will be seen by investigating the various schemes advocated by different nationalities.

CHAPTER II

THE ENGLISH ACT AND ITS PROVISIONS

History.

THE first administrative body in England to make provision for a scheme of medical inspection in its schools was the London School Board. This occurred in 1891, but was done in a very perfunctory manner, and carried out in such an unsatisfactory way that the inspection was really of little value.

Then Bradford, in 1893, took the matter up by the appointment of a medical officer, Dr. James Kerr, to organize a system, which, although voluntary, proved to be of such value that, in 1902, he was appointed by the London School Board to thoroughly reorganize the system. This so-called voluntary system meant that any educational authority could appoint a medical officer for the inspection of its children or leave the matter in abeyance, just as it thought fit.

This continued until 1906, when the then Secretary to the Educational Board, the Right Honourable Augustine Birrell, introduced a Bill into the House of Commons. The Bill, however, proved abortive, and in 1907 the Right Honourable Reginald McKenna introduced another containing some medical inspection clauses. Certain of these were incontrovertible, and were put into an Act called the Education Administrative Provisions Act, which was the outcome of a steady movement of public opinion throughout the entire community.

Objects of English Act.

The objects of this Act are fully explained in a memorandum on "Medical Inspection of Children in Public Elementary Schools," which is dated November 22, 1907, and was issued by the Board of Education. This runs as follows (to quote extracts from it): "For some years past evidence has been accumulating that there exists in certain classes of English people a somewhat high degree of physical unfitness, which calls for amelioration and, as far as possible, prevention. A consideration of the gravity of the need led to the conclusion that medical inspection of school-children is not only reasonable but necessary, as a first practical step towards remedy. Without such inspection, we not only lack data, but we fail to begin at the beginning in any measure of reform. The reasonableness of such inspection, if it is conducted on sensible lines, leading to an improvement of the surroundings and physical life of the children, must become evident both to the parents and to the nation as a whole.

"The Board desire, therefore, at the outset to emphasize that this new legislation aims, not merely at a physical or anthropometric survey, or at a record of defects disclosed by medical inspection, but at the physical improvement and, as a natural corollary, the mental and moral improvement of coming generations. The broad requirements of a healthy life are comparatively few and elementary, but they are essential, and should not be regarded as applicable only to the case of the rich. In point of fact, if rightly administered, the new enactment is economical in the best sense of the word. *Its justification is not to be measured in terms of money, but in the decrease of sickness and incapacity among children, and in the ultimate decrease of inefficiency and poverty in after-life arising from physical disabilities.*"

Powers and Duties of Local Educational Authority.

The section of the Education (Administrative Provisions) Act, 1907, which concerns medical inspection of school-children is as follows:

"*Section* 13.—1. The powers and duties of a local educational authority under Part III. of the Education Act, 1902, shall include—

"(*a*) Power to provide for children attending public elementary schools, vacation schools, vacation classes, play centres, etc.;

"(*b*) The duty to provide for the medical inspection of children immediately before, or at the time of, or as soon as possible after, their admission to a public elementary school, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools.

"Provided that in any exercise of powers under this section the local education authority may encourage and assist the establishment or continuance of voluntary agencies, and associate with itself representatives of voluntary associations for the purpose.

"2. This section shall come into operation on the first day of January, nineteen hundred and eight."

Appointment of Dr. George Newman.

At this period—November, 1907—Dr. George Newman was appointed by the Board of Education to organize the means for carrying out the provisions of the Act, which was put into force and made compulsory on account of the general routine of medical inspection up till this date being as a rule imperfectly followed up, and much of the advice given being ignored. "This Act," according to the memorandum, "is not intended to supersede the powers which have been exercised by sanitary authorities under various Public Health Acts, but is meant to serve rather as an amplification and a natural development of previous legislation."

Responsibilities of the Board of Education.

The Act having been passed, the responsibility of the Board of Education consisted in advising all local education bodies as to the manner in which they should carry out the provisions of the Act. Seeing that there are in England 328 authorities, consisting of all counties, county burghs, municipal burghs with population over 10,000 and all urban districts over 20,000, the task was by no means a sinecure.

Every part of England is now included and all schools are inspected. Legislation enforces that the provisions of the Act must be carried out. Should authorities neglect to do so, the Government grant is stopped, as medical inspection is deemed to be an integral and organic part of efficient education.

Instructions to Medical Officers.

All medical officers are instructed to co-ordinate with the health officials, as, although the two Acts are separate and distinct, it is recognized that, both working in unison, the provisions will be more effectively and efficiently carried out.

Salaries of Medical Officers—how Paid.

The salaries of medical officers are paid out of a local education rate, increased by a Government grant, which is about £14,000,000, distributed among the educational authorities of England and Wales. This amount is distributed *per capita* on the average attendance. There are four permanent medical officers in London, appointed by the Board of Education to supervise the working of the system throughout England.

Instructions as to Medical Inspection.

Paragraph XI. of the memorandum already referred to is as follows:

"XI. A consideration of these matters has led the Board to the conclusion that, as far as practicable, the statutory medical

inspection should, at entrance or at subsequent inspection, take account of the following matters:

"1. Previous disease, including infectious diseases.

"2. General condition and circumstances.

"(*a*) Height and weight.

"(*b*) Nutrition (good, medium, bad).

"(*c*) Cleanliness (including vermin of the head and body).

"(*d*) Clothing (sufficiency, cleanliness, and footgear).

"3. Throat, nose, and articulation (mouth-breathing, snoring, stammering, tonsilar and glandular conditions, adenoids).

"4. External eye disease and vision-testing.

"5 Ear disease and deafness.

"6. Teeth and oral sepsis.

"7. Mental capacity (normal, backward, defective).

"8. Present disease or defect.

"(*a*) Deformities or paralysis.

"(*b*) Rickets.

"(*c*) Tuberculosis (glandular, pulmonary, osseous, or other forms).

"(*d*) Diseases of the skin and lymph glands.

"(*e*) Diseases of the heart or lungs.

"(*f*) Anæmia.

"(*g*) Epilepsy.

"(*h*) Chorea.

"(*i*) Ruptures.

"(*j*) Spinal disease.

"(*k*) Any weakness or defect unfitting the child for ordinary school life or physical drill, or requiring either exemption from special branches of instruction or particular supervision."

Regulations of the Board of Education.

The regulations of the Board provide for not less than three inspections during the school life of the child, and they recommend all local authorities to encourage one or both parents to be present

at the first examination, which takes place when the child enters school, and that a notification be sent as to the time and place at which the examination will be conducted (under Paragraph XII. of the memorandum, which goes on as follows):

Parents' Attendance at Examination.

"Whilst some trouble may be involved in inviting the parents, the Board believes that substantial gains would thus be secured, for by this means misunderstandings will be avoided and prejudice will be disarmed; moreover, the parent is able to facilitate examination and provide information, and the medical inspector's opinion could be given clearly and directly to the persons most nearly concerned."

Co-operation with School Authorities.

Certain regulations to medical inspectors are also included in this memorandum. Two of these are of considerable importance, aiming as they do at a co-operation of the school authorities. They are:

"(*a*) The inspection should be conducted in school hours and on school premises, and in such a way as to interfere as little as may be with school work. The examination of each child need not, as a rule, occupy more than a few minutes.

"(*b*) The convenience of the teaching staff and the circumstances of each school must receive consideration, and in these matters and in the actual examination the medical officer will, no doubt, exercise sympathy and tact, giving due thought to the personal susceptibilities of those concerned."

The other clauses in this recommendation deal mainly with the records, method of filing them, and other matters of a statistical character which need not be detailed.

CHAPTER III

THE LONDON SYSTEM

Appointment of Medical Officers.

PREVIOUS to the passing of the English Act the School Board for London, now the Education Committee of the London County Council, had already recognized the importance of medical supervision in its schools, and in 1902 Dr. James Kerr was entrusted with the organization of a scheme, which has now passed through various stages of improvement by the gradual increase in the number of its medical officers. At the present moment great diversity of opinion exists as to which is more preferable—the appointment of an entire staff of men devoting their whole time to the work, or a few to examine cases requiring immediate attention, assisted by a number of others giving a quarter of their time. Recently forty of these were appointed at salaries ranging between £120 and £150 per year, the latter sum being paid to those who are promoted to the position of school doctor. The appointments are for three years, and among certain circles have had a considerable amount of adverse criticism. Dr. Kerr expresses his opinion very clearly and forcibly.

Dr. Kerr's Opinion on Quarter-Time Men.

"In any large town (or, for the matter of that, anywhere almost) a better type of man would be got if medical inspectors of schools are only taken on for part-time work. I think three half-days a week about as long as anyone can do good work of this monotonous nature without degenerating into an almost senseless machine. Besides, they are wanted to keep in touch with other medical topics; and, again, you want young and energetic people, who can be got

before they have built up practices, whilst, indeed, time is often heavy on their hands. Further, if they are to be taken on *in rota*, as in London, you are passing large numbers of medical practitioners through the schools, and educating them as to the needs and possibilities of children in a way which at present is totally neglected in medical education.

"In short, the service becomes better, cheaper, and more effective, and reacts more widely in its good effect on the profession, by employing part-time officers for assistants. The chief officer should, of course, be whole time, and, as Professor Osler says, well paid."

Opinions on Appointment of Full-Time Men.

On the other hand, the advocates of the whole-time system consider that the work will be done in a more perfunctory manner if a man is engaged in private practice, it being assumed that school work is of minor importance from a pecuniary point of view; and, further, that medical inspection, being of a special nature, is likely to lead to a more perfect system if conducted by whole-time men than if combined with the ordinary routine work of general practice. Dr. George Newman is a strong supporter of this view, and his idea has been most generally adopted throughout Great Britain; but as both systems are only of recent origin, the practical result of either is as yet problematical.

Duties of Part-Time Men.

The L.C.C. part-time men devote three half-days a week to the work, which consists of:

The examination of special cases referred by the head-masters, who are previously advised under Form M.O 29 as follows:

Notification of Examination to Head-Teacher.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.,
..... 19...

SIR (or MADAM),
My assistant will visit your school on next, the
I shall be glad if you will place on the enclosed Form M.O. 28 the names of all children known to the teachers as presenting any condition likely to seriously affect their education or future life.

Yours faithfully,

.....
Medical Officer (Education).

THE HEAD TEACHER.

The names of children are listed under Form M.O. 28.

M.O. 28.

LONDON COUNTY COUNCIL.

..... *School.* *Department.*

LIST OF CHILDREN TO BE PRESENTED TO THE SCHOOL DOCTOR.

Name of Child.	Age.	Standard.	Why Presented.	School Doctor's Remarks.

The cases usually referred for special examination are those of defective teeth, eyes, ears, nose, and throat, a special form being used for each condition.

TEETH.

M.O. 76.

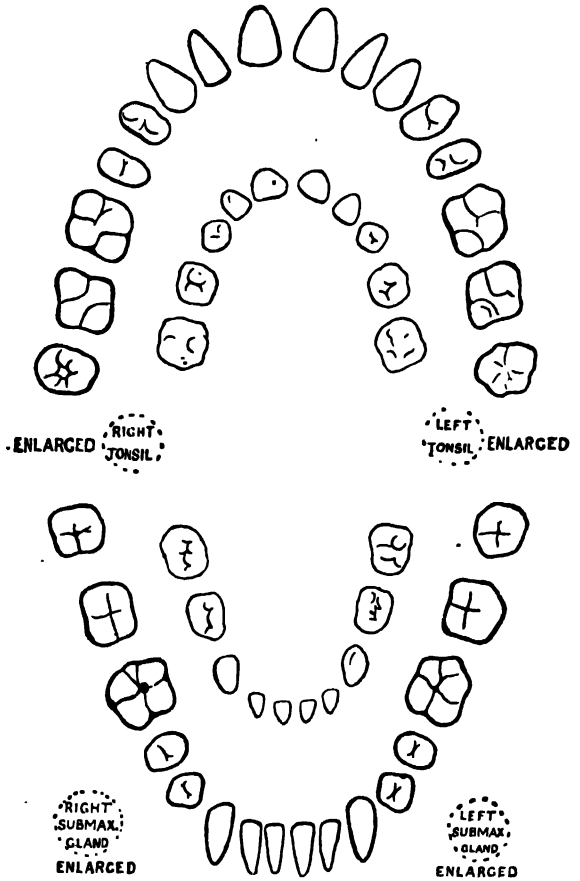
LONDON COUNTY COUNCIL.

Name..... *Age*..... *Date of birth*.....

Address..... *School*.....

General condition of teeth: Clean Dirty	In urgent need of treatment
Amount of caries in temporary and permanent teeth: Little Much	Recommended to (Name of institution, if any)
Oral sepsis: Little Much Alveolar abscesses or fistulæ	
Deformities of jaws and teeth: Superior protrusion Hutchinsonian teeth	Result: Extraction Stopping Nil

On the other side of the card is the chart of the mouth as illustrated on next page.



EYES.

The school doctor ophthalmoscopically or otherwise examines all children that have been referred to him by the head-master, who has been previously notified from headquarters as follows:

M.O. 48.

LONDON COUNTY COUNCIL.

Vision Test.

The school doctor hopes to visit your department on at o'clock in connection with the vision test. Will you kindly have the children notified by you on Form M.O. 12 as having defective vision ready at that time?

Should any defect be detected, the parents are notified by means of a card coloured green.

M.O. 15.

LONDON COUNTY COUNCIL.

Notice of Defective Eyes.

The Medical Officer (Education) having examined, reports defective eyes, which may get worse, and for which you are advised at the earliest opportunity to seek proper medical advice as to the advisability of wearing glasses or adopting other means of relief.

It is particularly requested that a parent or some other responsible person should accompany a child when medical advice is sought.

Date

On the other side of the card are the following instructions to the parent:

Please take this Card with you to the Doctor.

You are cautioned against the grave risks children may incur by wearing glasses as prescribed by the various sight-testing establishments, certified opticians, chemists, toy-shops, or any other than qualified medical men.

When you take your child to be tested for spectacles, the doctor usually orders either drops or ointment to be used at home. It is most important that you should follow out exactly the directions given with the bottle or box. If you have not done so, the doctor, at your second visit, may be unable to prescribe the spectacles. Disappointment and waste of time are the result. Be careful, therefore, to use the drops or ointment exactly as directed.

Should a serious defect in vision be found, a *red*-coloured card is sent, as follows:

M.O. 12*a*.

LONDON COUNTY COUNCIL.

Special Notice of Serious Defect in Vision.

The Medical Officer (Education) having examined reports a defect in vision likely to seriously affect not only progress in school, but future prospects in life, and you are strongly urged to seek *immediate medical advice* as to the advisability of wearing suitable glasses.

It is particularly requested that a parent or some other responsible person should accompany a child when medical advice is sought.

Date.....

The other side of this card contains precisely the same instructions to the parent as before.

EARS, NOSE, AND THROAT.

All cases of suspected disease are referred to the school physician, who, on examination, advises the Chief Medical Officer, who issues a notice to the parents, M.O. 49:

M.O. 49.

LONDON COUNTY COUNCIL.

..... *School.*

The school doctor having examined; reports that the child is suffering from affection of the; which is likely to affect not only progress in school, but future prospects in life, and you are strongly urged to seek proper medical advice in order that this condition may be remedied.

It is particularly requested that a parent or some other responsible person should accompany a child when medical advice is sought.

Date.....

.....

Medical Officer (Education).

ROUTINE PHYSICAL EXAMINATION.

As prescribed by the Act, a certain number of children must be examined each year, all parents having previously been notified under Form M.O. 64:

M.O. 64.

LONDON COUNTY COUNCIL.

..... *School.*

SIR (or MADAM),

The medical inspection of the above school, as required by Section 13 of the Education (Administrative Provisions) Act, 1907, will take place at an early date, and it is expected that the school doctor will examine your child on at o'clock.

Your presence at the examination would be most helpful, and it is hoped that you will be able to attend.

Yours faithfully,

.....

Medical Officer (Education).

TO THE PARENT (OR GUARDIAN).

This examination must conform with the provisions of the Act, but, in addition to the form prescribed by this Act, a shorter and simpler one is used by the L.C.C. for filing purposes. Most of the details being filled in by either teacher or nurse, the medical officer is enabled to devote his entire time to the examination. Numerals are used to indicate the child's condition.

1	2	3	4	5
Excellent.	Good.	Average.	Fair.	Bad.

Height Measurement.

Height, in centimetres, is measured by a cheap and simple method: a piece of wood, graduated, and grooved in the middle to admit another piece, which is set at right angles and retained in place by means of a spring, the rectangular piece being removable. This is screwed into the wall or architrave of the door.

Weight is estimated in kilogrammes.

Cleanliness and Condition of Skin.

In London and other large centres facilities for bathing and attention to general hygiene are not all that might be desired, and the result is that contagious skin affections and pediculosis are only too common. The latter is often a cause of absence from school, and cases are allowed to remain untreated for months, as the parents have discovered that unclean heads are a safeguard against compulsory attendance.

Requirements of Schedule.

In order to properly fulfil the requirements of the schedule, a thorough examination must be made, similar in every respect to that demanded by life assurance companies. One very important question is, however, omitted, unless it can be included under the term "other diseases or defects." Not only is the examination of the urine considered to be unnecessary, but the kidneys are completely ignored. It might be said that a medical officer must of necessity embody this in his report, but, on the other hand, one might contend that none of the questions are required, and only a report as to abnormalities or defects considered necessary.

INFECTIOUS DISEASES.

Every precaution is taken by the L.C.C. to prevent the spread of infectious diseases, and the parents notified and carefully warned, so that if an epidemic occurs it may be confined to as narrow a limit as possible. Children suffering from the following diseases are excluded from school: Diphtheria (represented by a D.), scarlet fever (S.F.), measles (M.), mumps (Mps.), whooping-cough (W.C.), chicken pox (C.P.), ringworm (R.W.), ophthalmia or blight (O.), itch or scabies (I.). If any cases of infectious diseases occur, all head-teachers have instructions to notify—

(*a*) The Medical Officer (Education),
(*b*) The Local Medical Officer of Health,
(*c*) The Divisional Superintendent,

under the following form:

FORM No. 84.

INFECTIOUS DISEASES.

LONDON COUNTY COUNCIL.

From the Head-Teacher

of *School.*

..... *Department.*

Full Address {
..... 19...

In accordance with the regulations of the Council, I have to inform you that the following child (children) is (are) absent from school on account of infectious disease:

.....

Measles.

Should a case of measles break out in the infants' department, all parents are required to inform the head-teacher as to whether or not the child has had measles, under Form M.O. 67.

FORM M.O. 67.

LONDON COUNTY COUNCIL.

From the Head-Teacher,

Infants' Department, ... *School.*

To the Parent or Guardian

of

Would you kindly inform me whether the above child has had measles, and if so, when ?

REPLY.

Notification to Parents *re* Closing a Class.

If it is considered advisable to close a class on account of an epidemic of measles, the parents are notified by Card M.O. 19.

M.O. 19.

LONDON COUNTY COUNCIL.

From the Head-Teacher,

Infants' Department, ... *School.*

The Parent or Guardian

of

As a case of measles has occurred among the scholars in the class which your child attends, it has been decided to close the class till Measles is an infectious disease. You are therefore cautioned, in the event of your child showing any signs of this disease, to keep from contact with other children or exposure to infection. A child who appears only to have a slight cold may have contracted measles and be dangerous to others. Any child who has contracted measles must not resume school attendance for one month.

Date *Signature.*

On the back of this card is a note of caution :

NOTE.

Measles may be a very serious illness in young children, and many die from it. The early symptoms are those of a cold, which may be at first slight; there is generally running at the eyes and

nose, sneezing, and possibly cough. Many children lose their lives because parents allow them to go out of the house, thinking that the indisposition is only a slight cold, when it is really measles.

If the child is attending school, and has not had measles, and an epidemic occurs, the parents are cautioned by the head-master, who forwards a card as follows:

M.O. 19*a*.

LONDON COUNTY COUNCIL.

The Parent or Guardian

of

From the Head-Teacher,

Infants' Department, ... *School.*

As a case of measles has occurred among the scholars in the class which your child attends, it is possible that may have contracted the disease. As it requires about twelve days for measles to develop after infection, you are requested to pay particular regard to the state of your child's health during the NEXT THREE WEEKS, and upon the slightest sign of illness to abstain from sending to school.

Date *Signature.*

Instructions as to symptoms are also printed on the back of this card, similar to the preceding one.

Diphtheria.

Should an outbreak of diphtheria occur, the medical officer is immediately instructed to go to the particular school and take swabs from the throat of every child in the room. These swabs are all bacteriologically examined, and the schoolmaster receives instructions from headquarters and a form (M.O. 33):

M.O. 33.

LONDON COUNTY COUNCIL.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.;
..... 19..

School.

DEAR SIR (or MADAM),

While diphtheria is present in the district I shall be glad if you will exclude any child suffering from sore throat, and forward the name and address to the Medical Officer (Education), the Medical Officer of Health for the district, and the Divisional Superintendent.

The child should not be allowed to resume attendance until a certificate (based upon bacteriological examination) has been furnished stating that it is free from infection. This precaution is necessary to prevent the spread of the disease. If necessary, this certificate can be obtained from the local Medical Officer of Health.

This rule will apply until further instructions are sent you.

Yours faithfully,

Medical Officer (Education)

Parents' Notification *re* Diphtheria.

Parents are notified by means of a green card (M.O. 35):

M.O. 35.

LONDON COUNTY COUNCIL.

The Parent or Guardian

of

From the Head-Teacher,

..... *Department,* *School.*

Diphtheria being present in the district, and your child having exhibited some symptoms of the disease—namely, sore throat—you are requested, in the interests of your own child and of the other children, to keep at home. A medical certificate, *based upon bacteriological examination*, stating that is free from infection, should be obtained before presenting the child for readmission to school

This certificate can be obtained, free of cost, from the Medical Officer of Health for the district by those who have no private doctor.

(Show this card to the doctor.)

Signature.

A notification is also sent to the Health Department, as follows:

M.O. 38.

LONDON COUNTY COUNCIL.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.,
..... 19...

DIPHTHERIA.

..... *School.*

..... *Department.*

DEAR SIR,

I have to inform you that instructions have been issued to the head-teacher of the above school to exclude all children from classroom suffering from sore throats, and to forward their names and addresses to you.

These children will not be allowed to resume attendance at school until a certificate, *based upon bacteriological examination*, has been furnished, stating that they are free from infection, or until the teacher receives further instructions from this office.

I am,
Yours faithfully,

.....
Medical Officer (Education).

Every case in which the Klebs-Löffler bacillus is present is excluded from attendance at school.

Scarlet Fever.

Here the card is of rather an elaborate nature. One side contains all the information obtainable at school, Form M.O. 57, coloured white, being used for girls, and 57 Aa for boys (blue).

M.O. 57.

SCARLET FEVER CARD.

Name of school

Name.	Age.	Department.	Room.
Last attendance.	First absence.	Date of onset.	Source of infection, giving date with a view to determining incubation period.

Whether noticed ill in school.
Symptoms, if so, and when observed.

Class. Department (if suggestive). Possible. Probable.

Recent scarlet fever history of class or department.

1. Notified cases.
2. Unrecognized cases.
3. Simple sore throats.
4. Cases recently returned.

Names of scarlet fever or suspicious cases patient sat near.

Names of scarlet fever or suspicious cases particularly associated with —*e.g.*, drill partner or companion to and from school.

Any subsequent cases infected by this case in school; if so, state nature of association.

Remarks.

To be filled up only when child is seen by medical officer.

1. Physique of child.
2. Mouth-breather.
3. Tonsils and adenoids.
4. Subject to sore throat.

The other side of the card contains all the information regarding the child's home surroundings:

HOME SIDE.

Name..... Age.....
Address
Notified on.....
Removed to..... Hospital on

Symptoms of onset, with dates. Underline first symptom. Strike out those not observed.

Headache.
Vomiting.
Sore throat.
Rash.

Previously ailing or in good health (say for two or three weeks before onset).

Subject to sore throat?

Operation on nose or throat (date)?

Particulars, with date of any home isolation before notification (*e.g.*, separate bed or room)?

Any previous case of scarlet fever in house (with date)?

Ditto of sore throat, etc.?

Christian names of other members of patient's family, and of other children in same house *specially associated* with the case at or after the onset.

Surname. *x* Age. Remarks.
.....
Father.....
Mother.....

Mark with *x* those who are subject to sore throat. Place an S. against those who have ever had scarlet fever.

Indicate in this column any special contact with present case (*e.g.*, sleeping in same bed), giving date of last occasion. Unnecessary for father and mother.

Underline any who subsequently caught the fever.

The following points are suggested for inquiry:	*Space for Medical Officer of Health only.*
(1) Visits of suspected children, or (2) playing with suspected children in street, or (3) visit to any house where scarlet fever has recently occurred?	State (1) probable, (2) possible source of infection (other than day-school), giving approximate incubation period:
Sunday-school and date of last attendance?	(*a*) Home infection. (*b*) Milk-supply. (*c*) Sunday-school. (*d*) Children's parties. (*e*) Street infection. (*f*) Return case. (*g*) Fomites.
Children's parties, etc., recently attended, with dates?	
Cases in neighbouring houses, with dates?	
Milk-supply.	
Class of premises: good, fair, bad.	Number of rooms. Cleanliness. Sanitary condition.

Remarks.

Ringworm.

Ringworm is a disease which is conducive to a very large percentage of the exclusions from school. It is estimated that at any given time about 5,000 cases are responsible for a similar number of non-attendances. If the fungus and its spores are recognizable in hairs examined under the microscope, then the case must be excluded from school as infectious. The judgment of the nurse is usually to be relied upon for diagnosis, but it frequently happens that cases are returned to school certified by medical practitioners as free from disease, generally, because no microscopic examination has been made. According to last year's report, "In 151 cases medical certificates had been given that the children were free from disease and fit to attend school, but in 144 of these ringworm was found, three were cases of favus, and in only four was the distinctive organism not found." This seems to be a grave reflection upon members of the medical profession, but the report continues: "In some of the cases the clinical appearances were

such that we had grave doubts as to the *bona-fide* nature of the certificate."

The loss to the L.C.C. in Government grant through ringworm exclusions runs into thousands of pounds a year, and a move is being made in the direction of establishing special schools for its treatment.

Favus School.

These are intended to be similar to the Favus School, which was started some four years ago to cope with this disease, which was then prevalent principally among the alien population in the East End of London. They were treated with X rays, and so effectively that last year the school had to be closed for want of pupils, who had all been returned to the ordinary elementary schools.

NURSING DEPARTMENT.

Staff of Nurses.

Nurses are very important adjuncts if it is desired to carry out a system of medical inspection in a thoroughly efficient manner. At present in London there are 51 (each having 13,000 children under her supervision), with a superintendent and two assistant superintendents.

Duties.

The duties consist in assisting the doctor for one-third of their time, the other two-thirds being devoted mainly to the detection of uncleanliness and disease, and as much as possible home visitation, to stimulate the parents to obtain medical aid when necessary. It must be clearly understood that the nurse by no means usurps the responsibilities of the parent. Her duties might be classed under four groups:

(*a*) Inspection of heads for *Pediculi capitis.*

(*b*) Inspection of clothing for *Pediculi vestimentorum.*

(*c*) Detection and control of ringworm.

(*d*) Assisting the teacher with nurse's knowledge and experience in sundry small questions which occasionally arise, either in carrying out the medical officer's orders, or in suggesting temporary procedure in cases of suspected outbreaks of infectious or contagions disease.

The system has now been organized so that no school is left unvisited for a longer period than four weeks. The children are ranged in groups, and all suspected cases of ringworm set aside for further inspection. The nurse pulls out stumps of hairs, and forwards them to the laboratory for microscopic examination. She takes every precaution after each of these examinations by using permanganate of potash as a mild disinfectant, and, if a stronger one is required, corrosive sublimate. She also carries with her a powerful lens, a pair of forceps for manipulation of ringworm cases, and a spirit-lamp for sterilizing all instruments used. Every precaution is taken to insure that no stigma or reflection be cast upon a child with a verminous head, but it is quite impossible to entirely obviate this, and a good deal of unmerited criticism is naturally poured out upon the nurse, who must necessarily report cases as she finds them; otherwise her duties would devolve into a sinecure and the whole system be nullified. Mrs. Jones's Mary Jane carries the information to her mother that Mrs. Brown's Maria has a dirty head—"Nurse says so." The language used in some districts in the East End is generally more forcible than polite, and the consequence is that Mrs. Brown, instead of quietly attending to directions given, publishes the fact to the neighbourhood by denouncing the nurse in the strongest vituperative and in epithets which, as a rule, are not permitted in the drawing-rooms of Mayfair. The cleansing scheme adopted by the L.C.C. is as follows:

M.O. 71.

LONDON COUNTY COUNCIL.

CLEANSING SCHEME.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.

Unclean heads, generally in consequence of pediculi, have frequently been the cause of absence from school. These cases could be cured in a week or ten days, but are frequently allowed to run untreated for months, the parents having found out that unclean heads are a safeguard against compulsory attendance. The following scheme is now in operation with a view to remedying the conditions referred to with as little loss of attendance as possible:

When the nurse visits the school, she notes all children with unclean heads, and supplies the head-teacher with a *white* card for each child whose head requires to be cleansed. These cards are enclosed in sealed envelopes and given to the children to take home.

At the end of the *first week* all cases not treated are separated from the other children and a *red* card filled up by the nurse for each child and forwarded to the Divisional Superintendent, in order that they may be left at the homes by the attendance officers.

At the *end* of the *second week* the nurse forwards the "return form" to the Medical Officer (Education), who arranges for the Superintendent of Nurses to visit the school and examine the children proposed for exclusion.

When children have been excluded for prosecution by order of the Medical Officer (Education), the Divisional Superintendent is instructed to take steps for the prosecution of the parents. During the period which must necessarily elapse between the exclusion and the hearing of the summons the head-teacher readmits all children whose parents or guardians submit proof that they are clean, and *at once* informs the nurse, who visits the school without delay and examines the children readmitted, and reports the result of the examination to the Medical Officer (Education) and Divisional Superintendent. If the nurse reports that the children have been cleansed before the summons has been applied for, the Divisional Superintendent does not take out the summons; if, however, the nurse's report is made after the summons has been taken out, the Divisional Superintendent explains to the magistrate that since the issue of the summons the child has been cleansed, and that the Council does not desire to press the case. Should the readmitted child be found by the nurse to be still unclean, the child is again excluded and the Medical Officer (Education) and Divisional Superintendent informed of the fact. It may happen that the same child will be presented for re-admission more than once during the period between the first exclusion and the hearing of the summons. In such a case the head-teacher admits the child and informs the nurse, who again examines the child and reports

the results to the Medical Officer (Education) and Divisional Superintendent.

Should verminous children be found in a school where the scheme has been applied, *red cards* are served at once, as it is not necessary to issue white cards to children on whose parents a red card has already been served.

Parents' Notification of Vermin (First Notice).

(WHITE CARD.)

M.O. 14 (*Private*).

LONDON COUNTY COUNCIL.

Personal Hygiene.

Your attention is drawn to the condition of this child's head, which has been noticed in school.

The school nurse has examined it, and says that by attention to the directions given on the other side it can be rendered permanently clean within a week.

If cleansing is not effected by that time, further proceedings will be taken.

Medical Officer (Education).

Date

On the other side of the card are directions for cleansing:

When there is difficulty in keeping a child's head clean, paraffin or sassafras oil and a small-tooth comb should be used daily.

All hair with nits must be cut off.

The head should be washed with paraffin or sassafras oil, and combed with a small-tooth comb twenty minutes after using the oil.

Caution.—DO NOT USE PARAFFIN NEAR FIRE OR A NAKED LIGHT.

(Second Warning.)

(RED CARD.)

M.O. 14A.

LONDON COUNTY COUNCIL.

Medical Notification to Parents of Vermin.

Date

School.

To the Parents or Guardians of

A private notice regarding the state of this child's head having been sent to you, and this condition, which could be remedied in a week, still

being allowed to persist, the child has now been separated in school as unfit to be in the ordinary class. You are required to take steps to cleanse its head within the next week, failing which the child will be excluded from school, and you will be liable to prosecution and fine for not sending it in a fit state to school.

The means for cleansing these heads is given on the other side of this card.

(BACK OF CARD.)

INSTRUCTIONS FOR CLEANSING HEADS.

It is possible to effect a cure in about a week. All hairs with nits and all hair within a quarter of an inch of a sore must be cut off.

The head must be washed and scrubbed daily with paraffin oil, to which an equal quantity of olive oil may be added. If there are scabs, these, when softened, should be removed.

Repeat this treatment daily for a week, then weekly till all signs of lice are gone.

The use of a small-tooth comb daily is necessary.

Where there is difficulty in keeping a child's head clean the hair should be worn cut short.

Caution.—DO NOT USE PARAFFIN NEAR FIRE OR A NAKED LIGHT.

Notification of Nurse's Visit to School.

Previous to the visit of the school nurse, three days' notice is given to the head-teacher, so that he may be able to arrange for all out of school and special cases to be present:

LONDON COUNTY COUNCIL.

The school nurse will visit your department on morning next. Will you kindly arrange for any children, about whom you wish to have her advice, to be in attendance.

Perfect harmony exists between teachers and nurses; such co-operation is quite essential if the efficient working of the system is desired. The morning of each day is devoted to the inspection of a separate school, and the afternoon to dealing with the most unclean schools.

Dr. Kerr's Report *re* Cleansing Scheme.

"The cleansing system has been thoroughly effective." According to Dr. Kerr's report of May, 1909, "There is not the same need to apply the scheme to whole schools as there was four or five years ago. Formerly only cases with sores or vermin were reported; now children with nits alone are held to be unclean." It is of great importance to get nurses of the right sort. A kind, tactful, yet firm, character in an intelligent and refined nurse manages to conduct a cleansing scheme, even in a large school, with very few, sometimes no, exclusions for prosecution. The parents of eighty-one children were prosecuted and fines imposed, varying from 1s. 6d. to 12s.

Sterilizing Clothes for Pediculi Vestimentorum.

Cleansing the clothes in a case of *Pediculi vestimentorum* has recently been taxing the minds of the L.C.C. officers. To be effective, the apparatus should be cheaply and easily worked. Dr. Brincker made some experiments with formalin vapour, which was diffused into a zinc-lined cupboard by means of a lamp; but after half an hour's exposure in varying strengths up to twelve times that usually recommended, the insects were still alive. The steam apparatus at the Favus School was also experimented with, the steam being at 100° C., and in twenty minutes both pediculi and nits were completely destroyed. The difficulty must of necessity be the disinfecting of the home, a problem which, if solved, will facilitate the prosecution of parents whose children persistently attend school in an unclean state.

East End School.

A general idea of the method of conducting an inspection was gained by a visit to two schools, one in the East End and another in Marylebone Road. At the former Dr. Eric Pritchard was conducting a physical examination of a class of boys about nine years of age. The nurse was present as well as the head-master, and in the majority of cases the mother.

Attendance of Parent at Examination.

The presence of a parent (particularly the mother) cannot be too strongly advocated, if it is the desire of the L.C.C. to have this examination carried to its logical conclusion—viz., treatment. All the boys were stripped to the waist, heart and lungs examined, teeth, eyes, ears, nose, and throat inspected, any defect detected, the necessity for treatment demonstrated to the parent, who in every instance readily acquiesced in any suggestions made by the physician. The tongue-depressor which seems to be almost universally adopted in the schools is a flat piece of pine, which is destroyed after being used once. This, however, was not used here, but was replaced by one of the ordinary metal pattern, dipped in an antiseptic solution before using.

Marylebone Road School.

The school in Marylebone Road might be taken as an example of the schools in Central London. Although not of modern construction and the ventilation not all that might be desired, the pupils are quite up to the average, intellectually and physically.

Dr. Bishop Harman's Method of Examination.

Here Mr. Bishop Harman, a quarter-time medical officer, who usually conducts the physical examination during the morning hours, also does a preliminary retinoscopy as an eye specialist on behalf of the L.C.C. He usually examines about twenty-five children in two and a half hours, and is assisted by a nurse, who fills in the reports given to her by the parents. The majority of the latter are present, and as a rule not only offer no objection to the children being examined, but are only too pleased to have any remediable defect pointed out, as in the case of teeth, adenoids, skin, etc.

Tongue-Depressor used.

An ordinary lead-pencil is used as a tongue-depressor, as Mr. Harman is of opinion that it is much better than a flat piece of wood, coming as it does right down the median raphe of the tongue.

Mydriatic.

As a mydriatic he uses homatropine 2 per cent., cocaine 2 per cent., dissolved by gentle heat in castor oil. He considers this is the best and cheapest form in which it can be administered.

Health Standard.

The standard of health of each child is classified by numerals signifying excellent, good, average, bad, very bad; and the condition of the skin, clothes, general health, and the range of mental capacity, etc., noted.

Mental Capacity.

This last-named question (mental capacity) seems to be considered a very important one, as it is included in all the examination schedules. A definite workable standard on which to base an estimate of a child's mental calibre is being attempted by Mr. Harman, assisted by Mr. George Coad, head-master of Pulteney Street School, and one of his assistants, Mr. William G. Helsby. At present their system of estimation is based on a maximum of thirty points. They give:

5	marks	for age compared with class average.
10	„	for class work.
5	„	for general wits.
5	„	for games.
5	„	for craft, woodwork, etc.
30	marks.	

Thus, if a child is slightly older than the class average, he is only four; classwork poor, two or three, etc. Should the total of the five amount to from 25 to 30, he is put down in Class I.; 20 to 24, in Class II.; 15 to 19, in Class III.; 10 to 15, in Class IV.; and under 10, in Class V. Thus we have a fair idea of what is meant by backward children, and if the policy which is being strongly advocated by a number of medical authorities be carried into effect, it will not be very difficult to classify the children who would be allocated to special schools. If 10 per cent., as is estimated, are practically in

the same condition educationally in Class VI. as they were in Class II., then it will only mean that one school centrally situated to another ten will be required to be set aside for this specific purpose.

On pp. 36 and 37 appears a sample page from the register of the Pulteney School, and gives a full explanation of the methods used.

INTERMEDIATE SCHOOLS.

In relation to this question Dr. Kerr has reported: "There are large numbers (at least 10 per cent.) so dull and backward that they should be taught under other ideals than those of the ordinary school. For these I suggest *intermediate schools* between the special and the ordinary, with a simplified literary curriculum, and much more objective teaching and (motor) work at manual exercises."

LONDON COUNTY COUNCIL SPECIAL SCHOOLS.

Classification.

The special schools at present include all children who are not fitted for education in the ordinary way. These are—

A. Mentally defective.
B. Physically defective.
C. Deaf.
D. Blind.

A. MENTALLY DEFECTIVE.—To acquire an intimate knowledge of the different phases of the routine practice at the special schools a necessary visit must be paid to several of them, including those reserved for the mentally defective. By the latter term is not meant the imbecile, but those children who are apparently not capable of absorbing the various educational advantages unless "spoon-fed," special care being given to each individual child, so that as many as possible may be advanced to such a stage as will

enable some to entirely earn their own living, and others to partially do so, who would otherwise become a burden on the State.

There is a fair percentage where the special training is of absolutely no value, as will be shown from the report which was published some few months ago; but many of these children—in fact, a majority—become useful citizens of the community.

OSBORN PLACE—SPECIAL SCHOOLS.

The special school for mentally defectives at Osborn Place was established after the passing of the 1899 Act, from which the following clauses are quoted, dealing with the provisions made for this special class of school:

Act *re* Education of Defective and Epileptic Children.

"An Act to make special provision for the elementary education of defective and epileptic children in England and Wales.

"I. (1) A school authority defined by the Elementary Education (Blind and Deaf Children) Act, 1893, may, with the approval of the Education Department, make such arrangements as they think fit for ascertaining—

"(*a*) What children in their district, not being imbecile and not being merely dull or backward, are defective—that is to say, what children by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary Public Elementary Schools, but are not incapable by reason of such defects of receiving benefit from instruction in such special classes or schools as are in this Act mentioned. And

"(*b*) What children in their district are epileptic children—that is to say, what children, not being idiots or imbeciles, are unfit, by reason of severe epilepsy, to attend the ordinary Public Elementary Schools.

"(2) The School Authority, in making their arrangements under this Section, shall provide facilities for enabling any parent who is of opinion that his child ought to be dealt with under the Act to present such child to the School Authority to be examined, although he may not have been required so to do by that Authority,

Boys'

	Date of Exam	and	Na	Clothing and Foo ge:	G	1 N	Cleanline Skin.		ge compared with Class Average. †	Mental Condition. Classwork.	General Wits.	Gam	Craft Manual. Hand and Eye, etc.	
41	23/3/09	VII.	P. G					R.		10	5	5		
								L.		6	5	4		
42	23/3/09	IV.	J. G.					R. $\frac{6}{12}$ L. $\frac{6}{9}$						
43	23/3/09	IV.	S. K.	2		2	2	R. $\frac{6}{9}$ L. $\frac{6}{6\,0}$						12
44	6/4/09	IV.	W. K.	1		1	1	R. $\frac{6}{9}$ L. $\frac{6}{6}$			5	3		23
45	1/4/09	IV.	A. K.	1		1	1	R. $\frac{6}{18}$ L. $\frac{6}{18}$			5	5	4	24
46	1/4/09	IV.	F. J.	2		1	2				2	4		12

* Here 1 means very good, the highest mark, and so on down to 5, the lowest mark.

† The average age is 7 for Standard I., 8 for Standard II., 9 for Standard III., etc., 13 for Standard VII. If below the average for his class, a boy gets 5 marks; if he is of average age, he gets 4 marks. If 1 year older than average, 3 marks; if 2 years older than average, 2 marks; if 3 years older than average, 1 mark; if 4 years or more than average, 0 mark. Thus, a boy aged 6 in Standard I. gets marks, and a boy aged 9 in Standard III. gets 3 marks, etc.

DEPARTMENT.

Classification. 25–30=1 20–24=2 15–19=3 10–14=4 0–10=5	Age.	Height, Weight, with Dates when taken.	ATTENDANCE.‡ Medal Boy (1).	Just below Medal (2).	Average Boy; Absent, say, Once a Month (3).	Below Average; Absent, say, Once a Week (4).	Bad (5).	Doctor's Directions to Parents or Teacher; Defects needing Attention.§	Action taken.‖
2	14	Not taken up to present date in these particular cases.	—	X	—	—	—	Eyes	"Parents visited. Had spectacles already. Won't wear them" (M. H., April, '09). "Philip wears his glasses now" (M. H., June 8, '09)
5	12		—	—	—	—	X	Eyes Throat	Operation for throat arranged. Went into country afterwards. Country Holiday Fund (M. H.).
4	11		—	—	X	—	—	Teeth Eyes	Now attends Charing Cross Hospital for eyes. Country Holiday Fund. Holiday, July.
2	11½		—	—	—	X	—	—	Boys' Brigade Camp, July, '09.
2	13¾		—	—	—	X	—	Eyes	Card sent for hospital, June 10, '09. Attends hospital.
4	13		—	—	—	X	—	Cleanliness	Card sent to parents.

‡ Here the highest mark is 1, and the lowest 5. An X is placed in the column corresponding to the attendance of the boy.

§ The defects are noted here simply as teeth, eyes, etc., but on the medical cards containing all particulars of the doctor's examination they are sometimes stated at greater length.

‖ The notes in this column have been made by Miss Horn (M. H.), a lady connected with the Charity Organization Society, and the schoolmaster. This particular page does not give much information on action taken.

and any School Authority failing to provide such facilities shall be deemed to have acted in contravention of this Act.

"(3) For the purpose of ascertaining whether a child is defective or epileptic within the meaning of this Section a certificate to that effect by a duly qualified practitioner, approved by the Education Department, shall be required in each case.

"(4) For the purpose of the exercise of the powers conferred by this Section it shall be the duty of the parent of any child who may be required by the School Authority to be examined to cause the child to attend such examination, and any parent who fails to comply with such requirement shall be liable on summary conviction to a fine not exceeding £5.

"II. (1) Where a School Authority have ascertained that there are in their district defective children they may make provision for the education of such children by all or any of the following means:

"(*a*) By classes in Public Elementary Schools certified by the Education Department as special classes.

"(*b*) By boarding out, subject to the regulations of the Education Department, any such child in a house conveniently near to a certified special class or school.

"(*c*) By establishing schools, certified by the Education Department, for defective children."

From the foregoing it will be seen that a special examination is necessary before a child can be classified as mentally defective. It is estimated by Dr. Kerr that about 1 per cent. come under this category, and the L.C.C. has established schools for them in various parts of London.

Nomination of Child to School for the Mentally Defective.

When any child is nominated as a probable case for admission to a school for the mentally defective, the following form must be submitted to the chief Medical Officer (Education):

M.O. 52 (MENTALLY DEFECTIVE CASES ONLY).

LONDON COUNTY COUNCIL.

This form should be filled up and forwarded to the Medical Officer (Education), Education Offices, Victoria Embankment, W.C.

(Children UNDER FIVE should not be nominated for admission to a special school.)

N.B.—In filling up this form avoid general terms, such as "fair," "moderate," etc., and say in the simplest terms what a scholar can do.

1. Name of Child.....
2. Address in full.....
3. Date of Birth.....
4. How long has the child attended—

 (1) This School?
 (2) Any other School?

5. What is the appearance of the child—stupid or bright?
6. Is the child—(1) Obedient; (2) Mischievous; (3) Spiteful?
7. Are the habits of the child correct and cleanly?
8. Are the propensities of the child peculiar or dangerous?
9. What is the mental capacity of the child?

 (1) Observation.
 (2) Imitation.
 (3) Attention.
 (4) Memory.
 (5) Reading (equal to standard).
 (6) Writing (equal to standard).
 (7) Calculation (equal to standard).
 (8) Colour.
 (9) Special tastes.

10. Is the child affectionate or otherwise?
11. Has the child any moral sense?
12. Have you any other information bearing on the case?

MEDICAL OFFICER'S NOTES.

Head-Teacher.....
School
Department
Date

The teacher is then notified from the central office under Form M.O. 16 :

LONDON COUNTY COUNCIL.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.
..... 19...

From the Medical Officer (Education)

To the.....

The Medical Officer will attend at..... School on the at o'clock for the purpose of examining children who have been nominated as probable cases for admission to a special school.

Will you please arrange for the following children to be presented on that occasion? *It is absolutely necessary that the parent or guardian be invited to attend.*

At the same time the parent is also instructed to attend under the following:

LONDON COUNTY COUNCIL.

EDUCATION DEPARTMENT.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.,
..... 19...

.....*School.**Department.*

To the Parent or Guardian of.....

I have to inform you that arrangements have been made for the above-named child to be examined at on day, the day of, 19, at o'clock, by the Medical Officer (Education), under the following section of the Elementary Education Act, 1899, Section 1 (4):

> "For the purpose of the exercise of the powers conferred by this section, it shall be the duty of the parent of any child who may be required by the school authority to be examined to cause the child to attend such examination, and any parent who fails to comply with such requirement shall be liable on summary conviction to a fine not exceeding £5."

I have, therefore, to request you to be so good as to make arrangements for the child to be in attendance on the day and at the time mentioned above. You should either be present yourself at the examination or arrange for someone to attend who knows the child well.

Education Officer.

Every child is given an admission card:

M.O. 50.

LONDON COUNTY COUNCIL.

ADMISSION CARD.

You are requested to submit the child named on the other side to the medical officer's examination, to be held on day, the day of, 19..., at o'clock, in School.

The mother or some responsible person must accompany the child. Children cannot be again presented for re-examination within six months unless otherwise ordered.

No child will be examined if presented without a card.

The medical officer signs the card on the other side, which is worded as follows:

Child's Name *Age*
Residence
School attended

Has been examined, and is deemed suitable for

(*Signed*)
Medical Officer.

He at the same time forwards a certificate to headquarters:

M.O. 56.

LONDON COUNTY COUNCIL.

MEDICAL CERTIFICATE AS TO DEFECT OF CHILD ATTENDING A SPECIAL SCHOOL.

Name of Child
School

I, ..., a duly qualified practitioner, approved by the Board of Education, certify that the above-named child, not being imbecile and not being merely dull or backward, is, by reason of (1) mental or (2) physical defect, incapable of receiving proper benefit from the instruction in an ordinary public elementary school, but is not incapable, by reason of such defect, of receiving benefit from instruction in a certified special class or school.

(*Signed*)
Qualification as Medical Practitioner
Date 19...

Strike out if not applicable.

Some of the cases may, on examination, be deemed unsuitable, and are returned to the elementary school; and those nominated to the special school must be approved by the Chief Medical Officer before admission, a special examination being made for this purpose, the teacher or parent being notified as follows:

M.O. 17.

LONDON COUNTY COUNCIL.

EDUCATION OFFICES,
VICTORIA EMBANKMENT, W.C.,
..... 19...

ADMISSION OF CHILDREN TO SPECIAL SCHOOLS.

SIR,

I beg leave to inform you that an examination of children nominated for admission to special schools for defective children will be made at on at o'clock.

Yours faithfully,

Medical Officer (Education).

Osborn Place School.

At Osborn Place there is a subdivision of the scholars into four classes. In the junior class for children just admitted many—the majority, in fact—are palpably mentally deficient. It is noticeable, however, that the children in the higher classes show a marked contrast as compared with the elementary pupils in the intense interest and enjoyment they manifest in their school work, indicating that their minds are capable of being applied to a subject if the necessary attention be given. In another classroom about twenty girls are taught hat-trimming, sewing, etc., and a mixed class of pupils may be seen engaged in basket-making. Dr. Kerr points out that it is unfortunate that in many instances children are removed by their parents (having reached the statutory age) before their education at the special school has been completed.

School for Advanced Boys.

At a neighbouring school the more advanced boys are instructed to give them a chance of becoming proficient in the trade to which they had already given some attention at the junior school, and it is pleasing to see the rapid progress made. The usual prize boy is paraded for exhibition (he, although only twelve months at the trade, had finished a boot which would do credit to a tradesman). Many of these children would, without special training, become a tax on the community, some drifting into the streets as hopeless wrecks of humanity, whereas by the methods adopted they develop into useful citizens.

Card Index System adopted by London County Council in Schools for the Mentally Defective.

During the routine inspection of the special schools for the mentally defective in 1908 a card index system was initiated for the purpose of collecting material for a special investigation into the mental capacity of the brighter children, with a view to ascertaining whether or not an intermediate class is desirable for children who, although not intelligent enough for the elementary school, cannot be classified as mentally defective, and also to eliminate those who are unlikely ever to improve, either in a mental or a manual capacity. Dr. Kerr remarks in the course of his summary, when considering these questions, these are matters of opinion in which the personal equation plays a considerable part.

The form used desired the following information:

Name of child.
Date of birth.
School attended.
How long has child been in a special school?
Would it do better in an intermediate school?
State whether likely to improve materially either mentally or manually.
State whether likely to be able to earn its own living.
State whether likely to be able to contribute to its own support.
State whether it will be able to do anything after leaving school.

There were nearly 5,000 children examined—2,826 boys and 1,982 girls. The figures arrived at were as follows:

1908.	Better in an Intermediate School.		Likely to Materially Improve.		Able to Earn own Living.	Able to Contribute to Own Support.	Able to do Anything after Leaving.		Total.
	Yes.	No.	Yes.	No.			Yes.	No.	
Numbers:									
Boys -	520	2,306	2,101	725	2,045	500	147	134	2,826
Girls -	374	1,580	1,367	587	1,329	416	122	87	1,954
Totals -	894	3,886	3,468	1,312	3,374	916	269	221	4,780
Percentage:									
Boys -	18	82	74	26	72	18	5	5	59
Girls -	19	81	70	30	68	22	6	4	41
Totals -	19	81	73	27	71	19	5	5	100

It will be seen from the foregoing that one-fifth are probably suitable for intermediate schools, three-quarters likely to materially improve, 20 per cent. able to contribute to their own support, and 10 per cent. unfit to earn their own living. Dr. Kerr adds: "These figures seem to err on the side of optimism." A visit to these schools will demonstrate to the most sceptical that the L.C.C. are obtaining for the masses results that were only possible hitherto in private institutions with limited accommodation. They should prove highly beneficial should the results mentioned above be realized, and should inevitably prove a resisting element in the prevention of crime, poverty, and destitution.

Physically Defectives.

Physically defectives are nominated for admission to a special school by applying in a precisely similar way to the mentally defectives.

Form used.

The form differs somewhat, in that not so many questions as to the mental capacity of the child are required. The following, however, are additional:

6. For what reason is the child sent up for medical examination?
7. Does attendance at an ordinary school appear prejudicial? If so, in what way?
8. Does the child suffer from fits? If so, have they occurred frequently or in school?
9. Is any near relative, dead or living, known to have suffered from insanity, fits, gout, spitting of blood, consumption, scrofula, or any other hereditary disease?
10. Remarks.

Cripples' School at Osborn Place.

Adjoining the school for the mentally defective at Osborn Place is what is termed a "Cripples' School," where many helpless derelicts, stricken with disease and deformity, receive every care and attention. At a visit paid quite unexpectedly a class was observed lined up before a piano, singing. Several of them were on crutches, others hobbled along with difficulty, and one was occupying a bath-chair. In spite of their afflictions, they seemed happy and contented.

Classification of Physically Defectives.

Physically defectives are classified by the L.C.C. as follows:

1. Sufferers from tuberculous disease of bones or joints.
2. Paralyzed children.
3. Children with various deformities of the trunk and limbs, if
 (*a*) The deformity is of such a nature as would render them liable to injury at the ordinary school;
 (*b*) The deformity is increasing;
 (*c*) They are under treatment requiring observation;
 (*d*) Orthopædic instruments are worn which are liable to injury.
4. Uncompensated heart disease.
5. Children convalescent from, or liable to, recurring attacks of chorea.
6. Certain chronic cases, such as chronic rheumatism, asthma, chronic bronchitis, exophthalmic goitre, hæmophilia, etc.
7. Certain defects of sight or hearing—semi-blind or semi-deaf.
8. Cases admitted on probation, whose defects have not advanced sufficiently for accurate diagnosis.

Routine Employed at School for the Physically Defective.

An ambulance van calls for the children in the morning, returning them to their homes in the evening. Meals are provided for them during the day. Extreme care is taken that strength is not overtaxed, half-hours spent in tuition alternating with periods devoted to physical exercise, leisure, and recreation. Manifestly, some must remain an incubus, but many, by adopting sedentary occupations, help to relieve the authorities of a responsibility which they must otherwise assume. The precocious type of child is in the majority, many displaying a mastery of detail, apparently indicating a higher standard of intelligence than is usually found among the average physically helpless school-children. The L.C.C. has now twenty-nine for the physically defective schools, with a roll-call of 2,440, almost every kind of deformity to which the flesh is heir being represented.

Notification of Examination of Children attending Schools for the Physically Defective.

All children in attendance at these special schools must be examined and reported on at regular intervals. Before the medical officer's visit a special notice is sent to the head-teacher to prevent, as far as possible, the non-attendance of those who might otherwise remain at home :

LONDON COUNTY COUNCIL.

The medical officer will visit your centre on at o'clock. Will you kindly prepare a list of the names of all children who have not been examined by the medical officer during the last nine months, and any other cases to which you think his attention should be drawn.

Schools for the Deaf.

Pupils recommended for admission to the special schools for the deaf are examined and reported on under Form M.O. 61 A :

E.O. 61a.

Name. Examined / /

Examination— External Ears.	R	L
Middle Ear.		

Nose, Pharynx, Fauces.

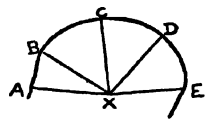


	Bell.	Acoumeter.	Voice.	Whisper.	Weber.	Rinné C 128	Rinné C°512.	Galton.	Bone Conn. C.
R									
L									
	3C 16	2C 32	1C 64	C 128.	C¹ 256.	C² 512.	C³ 1024.	C⁴ 2048.	
R									
L									

Vision.

Remarks.

Head Measurements.



Name.
Address.
School.

Date of Entry to School. / /
Date of Birth. / /

Previous History
Mental Condition.
Amount of Speech.

Articulation.
Lip-Reading.
General Capacity.

Origin assigned for Deafness.
Family History.
Dates. Subsequent Notes—

Hugh Myddleton School.

The Hugh Myddleton School, which was opened seventeen years ago by the late King Edward, then Prince of Wales, is divided into three departments—one for the mentally defective, another for deaf, and a third for ordinary elementary education, these divisions being strictly separated. A public exhibition of the mentally defectives is held periodically, the object being to demonstrate to the parents the contrast between those children who receive care and attention at home and those who are neglected. The latter are certainly not above the average, as the types are many and various, Hutchinsonian teeth being present in many instances, and not a few are only a shade removed from that of imbecility. Probably, so far as this school is concerned, the 10 per cent. mentioned in the report on the mentally defectives as being unlikely to earn their own livelihood in the future is somewhat optimistic.

Deaf Department.

The section dealing with deaf children is under the care of Mr. J. W. Fisher, who has supplied all the data regarding the working of this department. As he has been for many years working out this difficult problem (teaching the dumb to speak), his opinion, from practical experience, must be regarded with every consideration. The children were in all stages of learning, and an opportunity was provided of seeing the raw material starting to pronounce their aspirates and sibilants, preparatory to formation of syllables and words.

Divisions of Schools for the Deaf.

Mr. Fisher divides the school-life into three periods:

1. Between six and ten years of age, articulation and combinations, terms and actions or simple ideas.

2. Between ten and thirteen years of age, verbal forms of language (including the auxiliaries and conjunctive forms).

3. Between the ages of thirteen and sixteen, freedom of language.

He takes the first two, and at the age of thirteen passes them on to the Trades Schools for the Deaf, where their education is carried on still further under Division III., and they are taught the elements of suitable trades.

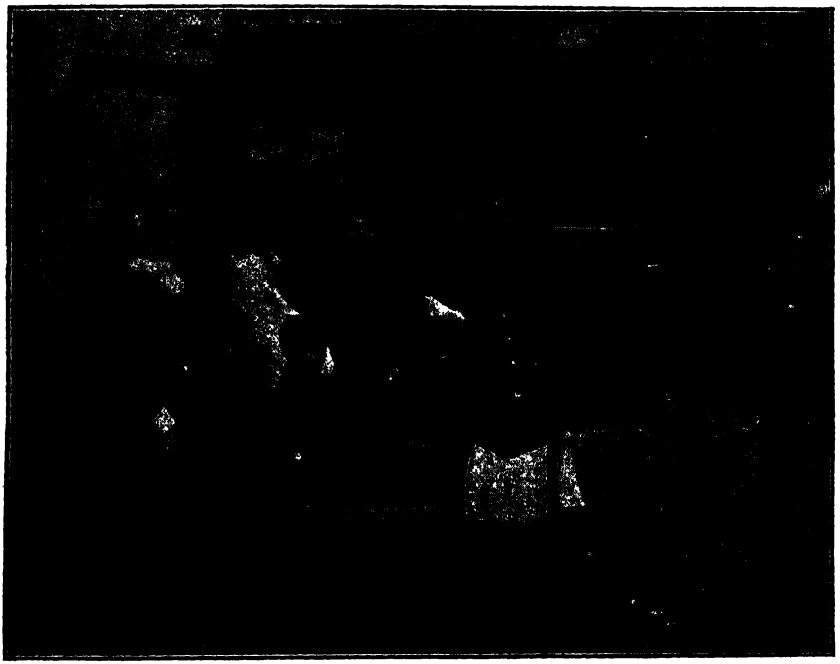


FIG. I.—AMBULANCE, MANSFIELD STREET SCHOOL.

Classification.

The classification of the school itself is as follows: Preparatory class, from five to seven years of age.

Stages I. and II.—Seven to nine years of age, all the articulation course to be completed and sounds of language acquired in combination, words taught as they arise out of these.

Stage III.—Nine to ten, the above revised, and a vocabulary of 350 words, nouns, qualities, and actions acquired.

Stage IV.—Ten to eleven, language forms acquired, picture and object lessons.

Stage V.—Eleven to twelve, English language, picture and object lessons, diaries, geography, and recitation.

Stage VI.—Twelve to thirteen, advanced language, reading from the ordinary standard readers, stories, composition, geography, and recitations with fluency.

Special Class recommended.

Mr. Fisher considers that a special class is a necessary adjunct to a large school for children who are a little below the average, and who would fall behind if placed with ordinary oral children. The results achieved by this system are satisfactory in the extreme. Amongst the deaf-mutes at this school the word "dumb" is an unknown quantity, and although it cannot be expected the deaf-mutes will ever blossom into orators or operatic singers, it is gratifying to see that by perseverance and infinite pains nearly all are able to express themselves in a manner sufficiently intelligible to be understood by their fellow-citizens.

Old Kent Road School is one of the special schools for the deaf and physically defective. At certain periods during the year it is the practice of one of the principal medical officers to attend at convenient centres to examine children who have been remiss in their attendance at school, and have been hunted up by the attendance officers. This school, being centrally situated, is utilized for the purpose. The parents must bring the children under a penalty of £5, and it is needless to add that the result is 100 per cent. of the delinquents. The cases submitted for examination are:

1. Candidates for admission to physically defective schools on the recommendation of the nurses, divisional superintendent, through the attendance officers, or on a special recommendation from the district visitors. These ladies voluntarily attend to take a note of any child in a condition physically unfit, through want of food or disease, to attend school. They visit such children at their homes, and give them all the care and attention required.
2. Those who have not been regular in attendance at school



FIG. 2.—SINGING LESSON, MANSFIELD STREET SCHOOL.

are examined, and, if fit, are ordered to return to the ordinary school under certain pains and penalties.

Children who have been at the mentally defective school and apply for permission to leave, being over the statutory age for ordinary elementary education. These are ordered to return to their school at once, where the case is considered on its merits, and provisional exemption given should the child be required at home, it being distinctly understood that heavy manual labour is avoided. The attendance officer is instructed to see that this is carried out.

Candidates applying for transfer from the physically or mentally defective to the elementary school. The complaints by parents are many and various: one has too many children to feed, and is anxious to take her child away at fourteen instead of sixteen, to which age the defectives must attend; another objects to the twopence per day for dinner, but this is remedied by the district visitor undertaking to investigate the case and provide the money if required.

Cases of phthisis, which are generally sent to an institution or home.

THE OPEN-AIR SCHOOLS OF LONDON.

Origin.

After some opposition, the powers that be were persuaded to make an experiment in Woolwich in the way of open-air schools. The first school was opened at Bostall Woods from July to October, 1907. So successful did this prove that next year three others were added—Montpelier House, Birley House, and Shrewsbury House. The latter two I had the pleasure of visiting. Before going into detail, it will be well to point out the methods adopted for the selection of the afflicted children, provision of food, and give a general indication of the regulations which are observed in conducting these schools.

Selection.

In a general way, any child which has apparently suffered from continual neglect, incipient phthisis, heart disease, etc.—in fact, all



FIG. 3.—PETERBOROUGH SCHOOL.

children below par who are unable to contend against the buffetings and bickerings which attend ordinary school life—are eligible for admission. The schools, or sites for them, are selected in a locality easily accessible either by tram or foot. In the case of Birley House, the tram passes the door, while Shrewsbury House is in the midst of the thickly populated and poverty-stricken district of Woolwich. The latter alone could supply enough material to fill several open-air schools.

Nomination.

The children are nominated for medical examination on the report of the attendance officers, or on the recommendation of the teachers. The children are then examined, and as many as there is accommodation for are admitted, the most deserving being selected and all social grades represented.

Class of Children admitted.

The commonest ailments to be met with are those due to neglect and poverty, and the diseases which are principally to be found among children in thickly populated neighbourhoods.

Cases which are rejected.

The cases which are rejected are those to whom the medical officer considers no benefit will accrue, or are likely to suffer harm from attendance. In 1908, according to Dr. Kerr's report, the cases rejected included tubercular knee, epilepsy, corneal ulceration, chronic heart disease, rheumatism, etc.

School Work.

The actual school work consists of four hours a day ordinary tuition, and one and a half hours' organized recreation and manual training, such as gardening, laundry work, basket-making, etc.



FIG. 4.—WOODWORK LESSON, LINDEN LODGE.

Meals.

Three are provided daily. Breakfast, at 9 a.m., consists of porridge, sugar, and ½ pint of milk. Dinner, at 1 p.m., consists of 4 ounces of meat or 5½ ounces of fish, 6 ounces of potatoes, and a quantity of vegetables, followed by 6 ounces of pudding. On one day a week the meat is replaced by a large plate of lentil- or pea-soup and bread. Tea, at 5 p.m., consists of half a pint of milk, weak tea or chocolate, with bread and butter or dripping, followed by bread and jam or cake. When considered advisable, a cup of beef-tea or milk is provided in the middle of the morning.

Rest and Sleep.

This is rightly looked upon as almost the main essential factor in treatment if the results aimed at are to be obtained. Many of these children have probably been for months living under circumstances which are detrimental to their already unfed bodies and prejudicial to their general welfare. It is not uncommon to find a whole family living in one room, which is probably verminous, and the bed-clothing filthy. The child may be unable to lie down until a late hour, as the room or rooms are required for other purposes, and the hygienic condition not all that might be desired. Consequently, when they go to bed, they are tormented by vermin of various kinds, and breathe the contaminated, foul organic atmosphere which pervades their filthy, squalid homes.

The children are compelled to rest for two hours, chairs and rugs being provided, but the former are a long way from being ideal. They are on the canvas deck-chair principle, and rest in the extended position, which is desirable for tired children, is impossible, and the majority of them seem to prefer to wrap themselves up in the rugs and lie on the bare ground.

Doctors' and Nurses' Duties.

The children are not allowed to sit for any length of time, and are kept under observation by doctor and nurse. The latter records the

weight and the height fortnightly, and the doctor examines the blood for hæmoglobin by Tallquist's method. The state of nutrition, condition of the teeth, cervical glands, tonsils, etc., are watched. Careful chest examinations for heart and lung disease are made, but medical treatment is not undertaken, and no medical remedies are prescribed.

Results obtained at Open-Air Schools.

The results obtained at the four schools last year were very gratifying. Not only did the weight increase, the average gain in boys being 2·25 kilogrammes and in girls 2·5, but the physical measurements also improved, and the percentage of hæmoglobin greatly increased. The average percentage of the latter in boys was 74, and amongst girls 75·6, and the actual average increase noticed in a six weeks' observation was 4 per cent. among boys and 4·75 among girls. The increase in weight was synchronous with the increase in hæmoglobin. It must be admitted that during recess the gain in weight was not maintained and the increase not permanent. The girls retained their weight fairly well, but still fell back considerably.

Birley House.

This is situated about four and a half miles south of the Tower and six miles from Victoria Station. Doctor Alice Johnson is the physician in attendance, the head-teacher Miss Beer, and Nurse Harrison the nurse in charge. The site is certainly not an ideal one, although it occupies a position on rising ground, and would probably not be selected were the County Council to decide to build a school. It so happened that they had this private house, with an acre of vacant land, and, as an experiment, resolved to convert it into an open-air school.

Accommodation at Birley House.

The house itself is an old one and the ceilings low; but, of course, as all instruction is given and meals provided in the open air,

this is not a matter of serious moment. The nurses' room and accommodation provided for examination of patients is most primitive, and the bath-room small and cramped; but, despite this adverse condition, every child has a bath once a week. Repeated representations to the authorities for necessary improvement have, unfortunately, hitherto proved futile.

Objections to Site.

Another objection to this site is the fact that there is no subsoil drainage. Consequently, water lies on the top of the ground for some time after rain. The surrounding vegetation is uncleared, and limitation of direct sunlight by the overshadowing trees must be detrimental. One advantage it has is that there is an open field and park, which the children can make full use of for recreation purposes. They are taught in a shed built on the German principle, but it is much too small for the large number of children in attendance.

Cost to Parents.

Parents are supposed to contribute half a crown a week towards the upkeep of each child, and, as meals are provided at the rate of 2d. per meal, no parent in a position to pay ought to cavil at the charge. If, however, the condition of any pupil attending this school has been caused through neglect or insufficiency of food, the attendance officers are instructed to make a thorough investigation into the cause, and if the Education Committee are not satisfied still further inquiries are made. The amount of payment asked varies between half a crown and nil, and is regulated by the amount of wages earned and the number in the family. Necessitous cases are paid for out of a voluntary fund, which is controlled by a committee.

Cases admitted to Open-Air Schools.

Those under treatment have been or are suffering from anæmia, heart affections, bronchitis, enlarged tubercular glands, incipient



FIG. 5 —GARDENS, BIRLEY HOUSE SCHOOL.

phthisis without sputum, chronic otorrhœa, and chorea. The children are admitted on the recommendation of one of the school physicians, but this must be ratified by the Chief Medical Officer, Dr. Kerr.

Birley House is six miles from the nearest hospital, and should any child be under treatment it is inconvenient and expensive for parents to take him to and fro. This is only the second year since this school was established. Considering the exceptionally wet weather, the unfavourable circumstances in which the school is placed, and its position and general equipment, the marked improvement in the physical condition of the children demonstrates clearly the necessity for extending the open-air school system.

Necessity for extending System of Open-Air Schools.

It behoves the L.C.C. to look at the question from an educational standpoint, and ask themselves which child is of greater value to the ratepayer—the physically weak or the strong and healthy; and further, which costs more to keep—the hospital patient or the healthy child. To-day in many of the hospitals of London may be seen wretched specimens of humanity, perhaps neglected in their early youth, unable to keep in the foreground of life's highway, in their futile attempts to contend against the struggle for existence, and who consequently plough the mire of poverty and crime, and eventually sink into one of our institutions, and must be maintained at the expense of the public purse.

London County Council Report on Birley House.

The following is an account of last year's results at Birley House, taken from the L.C.C.'s report of May 11, 1909:



FIG. 6.—DRAWING LESSON, BIRLEY HOUSE SCHOOL.

Age Last Birthday.	Weight on Admission.	Gain in Weight on Leaving.	Gain in Weight Six Months after Admission.
Boys.			
8	21·7	3·0	1·2
9	24·2	2·1	0·8
10	23·1	2·2	1·5
11	29·6	2·1	2·4
12	32·3	2·4	1·4
13	29·4	3·2	2·1
Girls.			
8	24·2	3·2	2·8
9	23·7	2·9	1·6
10	27·6	2·6	1·6
11	27·9	2·8	2·1
12	31·9	3·5	2·7
13	32·3	3·6	2·8

This table shows weights in kilogrammes, and although not maintained after leaving the open-air school, the gain shown six months later was decidedly better than the average for the same period at the London elementary schools.

Shrewsbury House Site.

The County Council is to be congratulated upon its selection of this site, which is about two miles from Woolwich Arsenal, and is fully 400 feet above sea-level. It is located on six acres of ground, with twelve to fourteen acres in addition for recreation purposes. There is an unobstructed view of the sea to the east, with no obnoxious chimneys to fill the air with dirty smoke and fumes. To the north is the Thames Valley, and to the south and south-east the beautiful hills and dales of Kent. It is scarcely possible to imagine a more suitable site within the same easy distance of London. The equipment, however, is not good; in fact, it is little better than that of Birley House. There are 100 children in attendance, who are supervised by four teachers and a nurse.



FIG. 7.—A READING LESSON, LONDON COUNTY COUNCIL OPEN-AIR SCHOOL.

School Buildings.

The school is built in sections, with a framework of wood covered with ruberoid. The ceilings are low, and there are no storm-blinds or curtains to protect the children from the cold south-east winds and rain. They are called Doecker pavilions, but probably were not primarily intended for the purpose of an open-air school. Desks are removed outside when the weather is favourable.

Equipment.

No water is laid on, and consequently there are no baths at the school, while that provided for washing purposes is collected from the roofs into a small tub—rather a precarious and uncertain method of supplying the requirements of 100 children. This is a serious matter, which the Council will do well to consider. Drinking-water has to be carried up.

Meals.

The meals are provided at Plum Lane, some half-mile distant, and about halfway up the hill, making a nice resting-place for the children when coming to school in the morning. Instead of having to trudge the whole way, the weaker ones are thus enabled to rest and have their breakfast before going farther.

Chairs.

The chairs are of the same pattern as at Birley House, but a better style was introduced by Dr. Frederick Rose. This style has four legs, like an ordinary bed with canvas stretched on poles between, and may be easily rolled up and put away. Its one objection is the tendency to sag, and it has not come into general use. Galoshes are provided for the children in wet weather, but this has only been done recently owing to the almost continuous rain. The head-master, Mr. Henry E. Turner, is an enthusiast in his work.

Methods of Teaching in the Open Air.

A sand-pit is used for modelling purposes and illustrating geographical topography. Farther away is a model river, which flows in wet weather, and is provided with aqueducts and locks at various points. Around are shown a coal-mine, lighthouse, island, docks, tunnel, and a semaphore and railway. Natural history is taught from the insect cage, and botany from the surrounding woods and fields.

Results obtained.

This school was only open for thirteen weeks in 1908, and consequently the same gain in weight and hæmoglobin increase as was shown in the case of Birley House was not attained, although the gain in weight six months later showed an average improvement. The hæmoglobin increase was particularly noticeable, and was as follows:

	Hæmoglobin Average.					Numbers showing Improvement.		
	Admission (June)	When School closed (Oct.).	Increase per Cent.	Decrease.	Stationary.	Below 10 per Cent	10 to 20 per Cent.	20 per Cent. and upwards.
Birley House.								
Boys (36) .	68	88	20	—	1	—	7	28
Girls (46) ..	65	88	23	—	—	—	11	35
Shrewsbury House.								
Boys (33) ...	74	82·5	8·5	—	1	11	21	—
Girls (40) ...	75	83	8	—	2	14	24	—

From these figures a clear case has been adduced in favour of the establishment of open-air schools wherever sufficient material exists, and in the years to come the sceptics and the scoffers of to-day will realize that their opposition to reform and amelioration of disease was built on an unsound foundation.

SUMMARY OF LONDON IMPRESSIONS.

The Control of Infectious Disease.

In the majority of cases this is one of the principal arguments adduced by advocates of a system of medical inspection, as children of school-going age are very susceptible to all forms of infectious disease—particularly measles, scarlatina, diphtheria, etc.—and the early detection is the one essential factor in resisting the spread.

Scarlatina.

The primary symptoms of a case of scarlatina may only assume the form of a slight sore throat, which might not be considered of sufficient importance to warrant exclusion from school. The rash may appear on the second day, its duration so brief as to be undetected, and a child allowed to return to school, and even be desquamating, before attracting suspicion.

Diphtheria.

An outbreak of diphtheria has more than once been traced to a sore throat, apparently of minor importance, but still capable of transmitting the Klebs-Löffler bacillus to others, who have been known to contract the disease in a very virulent form. Every case of the slightest suspicious nature should be excluded until verified by bacteriological examination as innocuous.

Clause in Act dealing with Excluded Children.

Formerly the control of such cases was materially assisted by the action of the then existing Education Department. In 1897 a clause was introduced into the Educational Code, Article 101*, which provided that no attendance marks should be withheld from a child absent from school on account of any infectious disease. This was done so that the school should not be penalized by loss of the Government grant, the amount of which is dependent upon the average daily attendance.

Clause abolished.

On the ground of expense this provision was abolished in 1903, as the authorities stated that they failed to see how the children were benefited. Prevention is ever better than cure, and that enlightened authority, the Board of Education, actually adopted one of the same arguments (expense) which is used as the battle-cry of the Anti-vaccinationists. Not only that, but a very valuable insurance against the spread of infectious disease has been struck out.

Loss to the Local Authorities.

At the present time every child absent from school means the loss of one shilling a week to the local authorities in grant. It is on this grant that the teachers' and attendance officers' status is based, and the result is that many children are squeezed into school irrespective of disease.

It is an extraordinary and unjust provision that, because a child is stricken with illness, a teacher aiming at high ideals or a school attendance officer zealous in his work should receive unmerited punishment.

Not only is this the case, but it is tending to enforce the attendance of children who are in that transition stage which is uncertain as to its infectious nature, consequently putting a premium upon the spread of that which the powers that be are endeavouring to prevent. Repeated applications have been made to the authorities for the repeal of this iniquitous provision in the Act, but so far without result. Stronger representations are necessary; otherwise the spread of contagion will be greatly facilitated.

Vaccination.

For a number of years the conscientious objector has practically abrogated to himself the control of the very necessary provision of the Vaccination Act. Prosecution is now almost an unknown quantity, but it is not beyond the bounds of probability that within

a very short period the opponents of vaccination—the recognized means of controlling the spread of smallpox—will have occasion to regret the attitude they have adopted, and those who at present treat with scorn and derision this scientific method of preventing the spread of a loathsome disease will yet remain to mourn.

England stands alone among the advanced nations of the world in her neglect to enforce the provisions of the Vaccination Act. The City of London, with its millions of population, is represented by every nationality under the sun—the Chinaman; the Hindu; the Russian, German, and Polish Jews; and the Italian—all admitted into its precincts and allowed to live in harmony and unison, but in such close proximity that an outbreak of smallpox among the unvaccinated would inevitably prove more devastating than the Boer War.

Drastic measures must be adopted, and it is a duty incumbent upon the L.C.C.—a body representing the people—to endorse, and not minimize, the opinions of its scientific advisers, and not be deluded by the claptrap and humbug emanating from the mouths of Hyde Park orators and so-called Christian Scientists.

Treatment.

Inasmuch as no power exists to compel parents to have their children treated, an important barrier still stands in the way of a successful system of medical inspection. The word "compulsion" is an ugly one, and generally leads to friction and resentment among all classes of the community.

Necessity for Parents' Attendance at Examination.

To clearly demonstrate to a mother the advantages which have followed the treatment of her neighbour's child for a precisely similar ailment to that from which her own child is suffering will tend, in a measure, to solve the problem. This may be done by inflicting a penalty should a case attend for examination unaccompanied by parent or guardian.

We enforce a system of education of the children, and it may be necessary to enforce also the education of the parent, to teach them their duties and responsibilities. This seems to be the crux of the whole matter, and if the Act could be extended to make the attendance of the parent at every examination compulsory, the difficulty of following up defectives would, to a great extent, be obviated, and the establishment of a whole system of school clinics rendered unnecessary.

Dr. Kerr on Importance of School Clinics.

Dr. Kerr is very emphatic on this question. He has expressed the opinion that the only efficient way of getting treatment in large towns is by school clinics. All other methods are cumbrous, ineffective, and more costly in time to parents, and in superintendence and actual cost for the children. If any attempt is made (except in very small places) to co-ordinate with charities or institutions, the actual budget might be less, but effective treatment will also be more than proportionately diminished, and the control over the results obtained will at first be practically nil, and, indeed, can only finally result in those establishments passing under public management, so that in any case we come in the long-run to the school clinic.

Contrary Opinions.

Then, on the other hand, much might be said to justify the attitude assumed by many general practitioners, whose work would be interfered with and curtailed were school clinics to become as universal as they are in some parts of Germany.

Be it remembered that the medical inspection of school-children is as yet in its infancy, or at most may be said to be just emerging from its swaddling-clothes.

School authorities, with their eye on the purse, refuse to grant the money for projects still in the experimental stage; on the other hand, they might place greater reliance on the opinions of those officers whose experience and research entitle them to be placed on the roll of experts in their several departments.

Difficulties and Objections.

The difficulties of inspection and examination—without interfering with the privileges of the family physician—by young medical inspectors, eager to "flash their maiden steel," is responsible for the opposition of general practitioners, and, unfortunately, the thin end of the wedge has been introduced by the Board sanctioning the correction of errors of refraction and the treatment of minor ailments.

As the necessary measures adopted for the training of the children in the secondary schools must come under the heading of medical treatment, it is difficult to foretell where the line should be drawn; but it behoves everyone interested in the medical profession to guard the interests of that much-abused, self-sacrificing friend of humanity —the general practitioner.

Objection to Vision-Testing by Teachers.

The responsibility thrown upon the teachers by some school authorities in testing vision, and in this way reporting certain children as defective, is not without its disadvantages, as many are not detected by Snellen's types, and are overlooked on that account. Those suffering from headache or who have a stooping gait—the latter being often due to taking up a position which suits the focus of their defective vision—should be examined by an eye specialist before being allowed to pass. Owing to the high range of accommodation possessed by children, which is gradually lost as age advances, a child by straining may manage to read the lower lines of test types with facility, but may, at the same time, be taxing his accommodation, and, consequently, grave refractive errors remain undetected.

Daily Routine Inspection.

This course has been advocated by some enthusiasts, but there are a number of considerations which make it impracticable. Where the financial question is of minor importance there might be some advantages, if arrangements could be made whereby a local prac-

titioner should visit one or two schools in his immediate neighbourhood every morning shortly after assembling, to see any children who the teachers have reason to think are suffering from infectious disease, or who, on account of some latent defect recently detected, should be referred for examination. This would involve an expenditure of not less than 5s. per day or 25s. per week per school, practically for the purpose of saving teachers undue responsibility in excluding suspicious cases.

Objections.

According to Dr. Hogarth: "The heavy expenditure involved in this scheme would only be justifiable if it were possible thereby absolutely to control the spread of infectious disease in the school, and if the system admitted of no leakage. Its disadvantages are twofold:

"1. As a certain method of controlling the spread of infectious disease in school it must frequently fail in practice.

"2. It is very extravagant.

"The leakage in the system results from:

"(*a*) The fact that the selection of the children in the first place depends upon the teachers, and not upon the doctor himself; therefore some children, though suffering from infectious disease, may not be seen by the doctor, and obviously it is impracticable for him to examine every child every morning.

"(*b*) The uncertainty in the diagnosis of infectious disease in the early stages. Thus, a child in apparently good health may be a carrier of diphtheria, scarlet fever, typhoid fever, and possibly of other diseases, and a child apparently suffering only from a simple cold may be in the first stages of measles; a child suffering from headache only may be sickening for scarlet fever. All sore throats are not significant of scarlet fever and diphtheria, and it requires more knowledge than can be placed at the disposal of the visiting school doctor to decide whether such a sore throat be infectious or not. Obviously it is impracticable to exclude every case of sore throat, headache, and simple cold, else the schools would be depopulated by half; and if they are left, some of them will give rise to secondary cases, and the

scheme fails because it is imperfect. Moreover, suppose the school doctor sees a child the day after it returned from scarlet fever or diphtheria, and no visible signs of infectivity are present: the doctor passes the child, and the illness is forgotten. A week later the child re-develops infectivity, but is not suspected to be a source of infection.

"The better system is to place a good deal of responsibility on head-teachers, and to control the spread of infectious disease in school from a central office; to supplement this scheme by weekly or fortnightly routine visits by the local school doctor, for the purpose of seeing any children about whom the head-teacher requires medical advice—not only infectious disease cases, but also verminous children, skin diseases, nervous diseases, rheumatic and debilitated children, etc."

Opinion of London County Council System of Medical Inspection.

Taking into consideration the almost insurmountable difficulty which has been overcome before a system of medical inspection of the dimensions and ramifications of that at present being applied by the L.C.C. could be achieved, it may not be erring in judgment if a still further improvement in the immediate future be forecast. The scheme was begun in a small way, and so successful have been the results that the staff is gradually being extended from year to year. The "experiments" made in the way of open-air schools can no longer be regarded as such, and it is earnestly hoped that the powers that be will recognize them as part and parcel of their system of education. The caution which has been exercised in advancing from one stage to another, and the acquirement of definite knowledge in dealing with different departments of the work, should no doubt be of material benefit in bringing these schools to a higher plane of perfection. The staff of medical officers and nurses is altogether inadequate to properly cope with the work involved in a system of medical inspection, but they are to be congratulated on the high state of efficiency which they have so far achieved.

CHAPTER IV

BRADFORD

HERE we have undoubtedly the most perfected system of medical inspection which is to be found either in England or elsewhere. This might, in some measure, be due to the fact that it was the first instituted in Great Britain, but probably the perfection to which it has attained would not have been accomplished except for two very potent factors.

ESTABLISHING A SYSTEM.

Dr. Kerr's Connection with Bradford.

1. The fact that Dr. Kerr, who was physician for the Royal Infirmary and afterwards to the Eye and Ear Hospital, happened to be located in Bradford. The marks of his handiwork and initiative organization are plainly visible throughout the whole system, as, indeed, is the case in every town visited. His untiring zeal, his unlimited energy, his zealous care and indubitable resource hall-mark the work throughout the whole of Great Britain. In 1902 London captured Dr. Kerr to carry out its work, and only lately his very capable successor at Bradford, Dr. Crowley, has been transferred to the medical staff of the Board of Education of England. These are compliments of which the city of Bradford might well be proud.

Dr. Kerr occupies the enviable position of being the primordial germ of medical inspection of school-children, as his original carefully considered system forms the basis of every other throughout Great Britain. The pinnacle to which Bradford has attained is a fitting tribute and a monument to this fact. Further than that, even in London his courtesy, his unswerving attention to his duties, and

his supervision generally, have endeared him to every one of his subordinates, who never miss an opportunity of expressing their appreciation of his work.

2. The school authorities in Bradford have not been slow to realize the results of their system. The fact that it has been in existence for a period of fifteen years, and now everything which is suggested as likely to prove of mutual benefit is eagerly discussed and adopted, is proof conclusive that the benefits have been recognized. The full realization of the aims has not been quite accomplished, as there are one or two things which show room for improvement.

Particularly is this the case in pediculosis. At present every child is carefully inspected, but no provision is made for disinfecting the clothes, the result being that whatever attention is given to cleansing the body, nothing is done to remove the pediculi or prevent their propagation in the clothing. Sterilizers have been ordered for this purpose, and it is the intention of the Board that so soon as they can accomplish the thorough cleansing of the child's body and clothes, they will enforce the disinfection also of the house in which he lives. When this has been done, they will follow up cases of neglect with prosecution of the parent. Considerable difficulty is experienced with the Board of Health in this particular matter at present, as they do not recognize pediculosis as under their jurisdiction.

When the scheme was first started, several members of the Town Council looked upon medical inspection in the schools with a certain amount of suspicion, but even its extremest opponent has been converted on account of the incontrovertible evidence adduced and the splendid results obtained.

Present System.

At the present moment Bradford is under the care of Dr. Lewis Williams, who seems to be imbued with the spirit and energy of his predecessors, and has inspired the Board with every confidence in his ability, to such an extent that they are allotting him half the ground-floor of the new Town Hall for his work. They place prac-

tically no restriction upon his expenses, everything within reason being provided by the educational authorities (this practically means the Town Council). The premises at present occupied are certainly very convenient, but, judging from the plans of their new quarters, it is quite apparent that the authorities consider the former inadequate. One weak spot which requires remedying is the administration, as the doctors hold their term of office from the Town Council, by whom they are appointed, and not by the Education Board.

School Clinics.

Bradford is the first town to adopt this system, and has only done so when it came to realize the large number of children who, although recommended for treatment, still remain unattended. For this purpose various departments are devoted to the different branches of the work. No operative treatment is done at these clinics.

Eye Conditions.

First of all, every child is examined at school once a year by the teacher, who receives the following instructions:

1. Place the test-card in a good light, avoiding direct sunlight. On a suitable day the testing may advantageously be done out of doors.
2. Place each child 20 feet from the card, and ask it to read the letters, picked out at random, of the bottom line but one.
3. Make a list, as directed on the "defective vision" sheets, of all children unable to read the letters on this line correctly.

This examination by the teacher is done for the purpose of saving the medical inspector's time.

Notification to Parents of Children with Defective Eyes.

The former sends on all cases whom he considers to be defective for special examination, and if his opinion is ratified, a notice is forwarded to the parents:

EDUCATION OFFICE,
MANOR ROW,
..... 19...

To the Parents or Guardians
of

The Medical Superintendent having reported this child as suffering from defective vision, which, if not properly treated now, will interfere with progress in school work, and may lead to very serious difficulties later on, the Committee recommends you to consult a medical man with regard to treatment or spectacles (costing usually half a crown or three shillings), and you are particularly cautioned against buying glasses in shops, from opticians or dealers, without a medical prescription. Coloured glasses are not allowed to be worn in schools.

Secretary.

Notification of Squint.

A similar notice in regard to squint is sent, as follows:

CITY OF BRADFORD.

EDUCATION COMMITTEE.

EDUCATION OFFICE,
MANOR ROW,
..... 19...

To the Parents or Guardians
of

....., the Medical Superintendent, has reported your child as suffering from squint, which, if not attended to, will lead to serious defect in vision, and may even result in blindness of the squinting eye. The Committee, therefore, recommends you to consult a medical man without delay.

Secretary.

Notification to Parent to Attend Clinic.

Should the parent pay no attention to these notices, the following is sent to him:

CITY OF BRADFORD.

EDUCATION COMMITTEE.

EDUCATION OFFICE,
MANOR ROW,
..... 19...

DEAR SIR (OR MADAM),

The Medical Superintendent reports that he has tested the vision of your child in school,

and finds that the eyesight is sufficiently defective to necessitate a fuller examination. If the defect is not properly treated now, it may interfere with progress in school work, and may lead to serious difficulties later on.

The Committee, therefore, have to request you to take your child to a medical man. If, however, you wish, you may attend at this office on day next, the inst., at o'clock, when your child will be examined, without charge, by one of the Committee's medical officers.

Yours faithfully,

Secretary.

Method of Examination of Eyes at Clinic.

In almost every instance the parent regards this as imperative, owing to its being delivered by the school attendance officer, and the child is brought up for thorough examination. A room is set apart for this purpose, and two complete sets of eye-testing appliances are provided, so that in the event of a large number of cases coming up two doctors may work at once. Should treatment necessitate ointments, lotions, etc., these are provided at the clinic; but if spectacles are required, the prescription for them is sent to the optician with whom the Board have a contract. The prescription form is in duplicate, one being retained by the optician and the other by the school inspector for future reference. The optician returns the glasses to the department by the following week, and the medical inspector puts them on the children to satisfy himself that they are right. Then the attendance officer calls on the parents, and either collects the money for the spectacles, or, if they cannot afford to pay for them, after a thorough investigation as to circumstances has been made, the department bears the expense. For the sole purpose of treating defective eyes Mondays and Tuesdays are devoted.

Ears.

In the first place, every case of discharging ears (otorrhœa) or running at the nose (rhinorrhœa) is rigorously excluded from schools. Every Wednesday afternoon is devoted exclusively to ear cases, which are all examined by the doctor, who usually dresses the cases and

gives instructions for treatment for the following week. If necessary, the nurses carry out this work—syringing, etc. Of course, precisely the same rule is exercised in the first instance as regards notifying the parents as is done in eye cases, as follows:

Notice to Parents of Children with Defective Ears.

CITY OF BRADFORD.

EDUCATION COMMITTEE.

EDUCATION OFFICE,
MANOR ROW,
..... 19...

1. *Running at the Ears (Otorrhœa).*

To the Parents or Guardians
of

....., the Medical Superintendent, has reported your child as suffering from running from the ears, caused by disease which may give rise to serious trouble, possibly resulting in permanent deafness, if left untreated. The Committee, therefore, recommends you to consult a medical man without delay.

Secretary.

Failing this, a notice to call at the office on Wednesday afternoon is sent:

..... 19...

DEAR SIR (or MADAM),

The Medical Superintendent will be glad if you will kindly bring your child [or children] to see him at this office on next, at o'clock.

Yours faithfully,

MR. *Secretary.*

Or else this notice:

Notice *re* Defective Hearing.

SCHOOL BOARD OFFICE,
MANOR ROW,
..... 19...

To the Parents or Guardians
of

....., the Medical Superintendent, has reported your child as suffering from defective hearing, caused by disease which may

give rise to serious trouble, possibly resulting in permanent deafness, if left untreated. The Board, therefore, recommends you to consult a medical man without delay.

.....

Clerk of the Board.

There is a splendid staff of attendance officers, who know every child of school-going age in Bradford. Their duties include not only roping in truants, but hunting up all cases untreated.

Cards used at Clinic.

Cards are used at the clinic. On these are written name, age, affection, date of first inspection, treatment, date when expected, and if the child is absent a duplicate is given to the attendance officer. No child must be allowed to escape. Cards of three different colours are used:

1. White, given to attendance officer.
2. Green, retained in the office.
3. Pink, for cases being treated privately by family doctor.

This last is kept by the attendance officer, who sends in a weekly report of the case.

Credit for Attendance at School to Children attending Clinic.

Should the cases be non-excluded ones, the child gets credit from the schoolmaster for attendance at school, the following notice being sent:

MANOR ROW, BRADFORD,
..... 19...

DEAR SIR (or MADAM),

I beg to give you below the names of scholars who attended at this office on afternoon instant, for medical examination.

I shall be much obliged if you will please cancel their absence marks for that afternoon by inserting in the ring the letter T thus (T).

The children should then, of course, be counted as "present," in the same way as children who attend for woodwork, cookery, etc.

Yours faithfully,

Secretary.

This form should be preserved until after Form 9 has been checked at the end of the school year.

The Head-Teacher,
..... School.

Other Conditions Treated.

Other conditions which are treated at the clinic are skin diseases, granular eyelids, and other inflammatory conditions of the eyes, and also all cases referred from school inspection by doctor, schoolmaster, nurse, or attendance officer. Every case must attend at the clinic, from ordinary truants running about the streets on the pleas of sickness in the family to those in the advanced stages of phthisis. These are all dealt with on Wednesday and Saturday mornings. A special room is provided for the treatment of ringworm by means of X rays. In another room the nurse pulls out stumps of hair (in cases of suspected ringworm) for microscopic examination. She also has to shampoo the heads and examine girls' hair for nits, and, in addition, she must visit the homes, and use her persuasive powers with parents who have neglected to have their children treated.

Ringworm.

Specially rigorous precautions are adopted to control the spread of this disease. In the first place, every child affected is excluded from school and a notice sent to the parent.

Notification to Parents *re* Ringworm.

To Mr. (or Mrs.)

SCHOOL DEPARTMENT,

..... 19 ..

DEAR SIR (or MADAM),

In accordance with the regulations of the City of Bradford Education Committee, I have to-day sent your child home, as I suspect h..... to be suffering from ringworm. Will you therefore kindly either—

(*a*) Consult a private practitioner; or

(*b*) Take the child to one of the hospitals; or

(*c*) Take the child to see the doctor at the Education Office, on Saturday morning next, between nine and ten o'clock?

In order to protect the other children, your child cannot be readmitted to school unless brings a medical certificate stating that the ringworm is cured.

Yours faithfully,

Head-Teacher.

Notice of Exclusion sent to Teacher.

At the same time a notice of exclusion is forwarded by the teacher to the Secretary of the Education Committee, as follows:

I beg to inform you that I have to-day excluded from school the undermentioned child (or children) suffering from ringworm:

Name

Address

Cases of Ringworm attended privately.

If being attended by a private practitioner, the head-teacher is advised from headquarters in a notice, signed by the school medical officer, as follows:

..... must be excluded from school, and must not be readmitted

(*a*) Until cured;
(*b*) Without a medical certificate;
(*c*) Until you hear from me again.

Every case of ringworm must be verified by the school medical officer as cured before being readmitted to school. The school nurse must forward specimens of hair for examination, and if the spores are still present, the case is again excluded. A large percentage of exclusions occur for this reason. The teacher must admit the children on the certificate of the family physician, but this must be verified by the school medical officer before being allowed to mix in a class with the others.

Medical Inspection in the Schools.

Thursdays and Fridays are devoted entirely to medical inspection in the schools. Every child must be examined three times during its career.

Notification of Teacher.

A notice to the teacher, intimating that an inspection will take place, is as follows:

EDUCATION OFFICE,
MANOR ROW,
..... 19...

DEAR SIR (or MADAM),

I have to inform you that the medical inspection of the following group of children in your department will begin on
viz., ...

Will you kindly notify the parents of of these, on the accompanying forms, to be present at the undermentioned times—viz.:
..... at o'clock at o'clock.
..... at o'clock at o'clock.
Please arrange for the teacher to be at liberty to assist, in accordance with Circular No. 278.

Yours faithfully,

.....

Secretary.

Notification of Parents.

The head-teacher must, in compliance with the Act, send a notice to the parents, intimating to them that an inspection will be made. This notice is the following:

DEAR,

The doctor is making an examination of the children in this school, under the regulations issued by the Board of Education for the carrying out of the above Act, and he intends to examine your child next at o'clock. He will be glad to see you should you care to be present.

Yours faithfully,

.....

Head-Teacher.

Information to be supplied by Teachers.

Teachers are required to supply all general information regarding the child by filling in the following particulars in the manner specified (the clerical particulars on the front page):

No. 3. Date of inspection—day, month, year.
No. 4. Department.
No. 5. Standard.
No. 6. Age. Stated in years and month—*e.g.*, $6\frac{7}{12}$.
No. 7. Regularity of attendance. Stated in general terms.
No. 21.* Hearing. Stated as—good; slightly deaf; deaf; very deaf; the latter to imply deaf enough to attend the Deaf School.
No. 44.* Mental condition. Stated as—exceptional intelligence; above average intelligence; average intelligence; below average intelligence; dull; mentally deficient (only to be used after consultation with the school medical officer).

* Nos. 21, 44 and 45 are 20, 43 and 44 respectively on the schedules first used.

No. 45.* Speech. Note should be made in regard to any defect of any kind—*e.g.*, letters which cannot be pronounced, stammering (stated as slight, marked), etc.

The particulars in regard to infectious diseases and other previous illnesses will, as regards children admitted previous to August 25, 1908, be obtained from the parent at the time of the examination of the child. Should the parent not be present, slips will be given to the head-teacher to send out to the parent, and the teacher is then asked to add to the schedule the information so obtained. In regard to children admitted after August 25, 1908, the head-teachers in the infants' schools will find that the information required has been added to the admission form (Form B), and will accordingly be to hand at the time of the child's medical examination. Should it not be possible to obtain the information at the time of the child's admission, it will be necessary to send to the parent one of the slips above referred to.

When a child leaves the school, the health schedule should be sent to the office at the end of the same week, the date of leaving having first been filled up on the front page.

The schedules are all filed at the school, each child being known by a particular number. They are marked "private and confidential," and are large enough to contain all particulars and details of past and present illnesses, as well as the treatment adopted.

Routine Visiting.

The school medical officer endeavours to visit in a routine fashion, *without notice*, every department in each school once in two months. There are three doctors supervising the schools in Bradford, and, with the exception of Wednesdays and Saturdays, two of them are always engaged in work other than the school clinics—such as school inspection, visiting at the homes, X-ray or bacteriological work. Every defective child is reinspected at the end of two months to see that treatment is being carried out. No one escapes.

Infectious Diseases.

Medical inspection in schools probably originated owing to the difficulty experienced in controlling and checking various forms of

* No. 45 is 44 on the schedules first used.

contagion and infection. The system adopted in Bradford is a very thorough one, and no apology is necessary for giving in full detail the methods used, as they are in many ways totally different from the forms employed by the L.C.C.

Scarlatina or Diphtheria Notifications.

Should a case be reported to the Medical Officer of Health, either by a physician or private person, the school medical officer is immediately communicated with, as follows:

CONFIDENTIAL.

SIR,

I beg to inform you that it is reported that members of the following families are suffering from infectious disease.

I am, yours truly,

.....

Medical Officer of Health.

Christian Name.	Surname.	Age.	Address.	Disease.

Should the case happen to be one of diphtheria, a special notice, containing also the names of other children in the family, is used:

CONFIDENTIAL.

SIR,

I beg to inform you that it is reported that members of the following families are suffering from diphtheria.

I am, yours truly,

.....

Medical Officer of Health.

Name of Patient.	Address.	Age.	Names of other School-Children.	If removed to Hospital.

Parent's Notification of Diphtheria.

Parents are at the same time notified that their children must not attend school:

PARENT'S NOTICE.

PUBLIC HEALTH DEPARTMENT.

Re *Diphtheria.*

SIR,

In consequence of the outbreak of diphtheria in your family, I have to request that no children from your house shall attend either day-school or Sunday-school until certified as free from infection by the school medical officer, who will communicate with you.

Yours faithfully,

MR.

Scarlatina.

Should the case be scarlatina, the patient is not allowed to attend school until a medical certificate is produced, and all the members of the family are also excluded for a certain time, the date being fixed by the physician. The notice is somewhat different from that used in diphtheria:

PARENT'S NOTICE.

Re *Scarlatina.*

SIR,

In consequence of the outbreak of scarlatina in your family, I have to request that shall not attend either day-school or Sunday-school until certified as free from infection by the school medical officer, who will communicate with you. No other child from your house may return to school until.....

Yours faithfully,

MR.

Notification to Schoolmaster—Diphtheria or Scarlatina.

Notification of these diseases is also forwarded to the schoolmaster, advising him at the same time what action he is required to take.

Diphtheria.

DEAR SIR,

I beg to inform you that there is a case of diphtheria at the house of a pupil attending your school, as below.

The child must not be allowed to return to school until certified as free from infection by the school medical officer. No member of the

family must attend school until certified as free from infection by the school medical officer.

I am, yours truly,

Medical Officer of Health.

Name. *Age.* *Address.*
Surname. Christian.

N.B.—In addition to the infectious diseases which are notified to the Sanitary Authority, and about which I am enabled to give you information as above, there are others of a no less infectious character which are not notified. Among these are measles and whooping-cough, which are at times widely prevalent, and cause a good many deaths. The same care should be exercised with regard to children and premises infected by these diseases as is called for in the case of the diseases to which my letter above refers. Your careful supervision to prevent these diseases among your pupils will be of the greatest service.

Notification of Cases discharged from Fever Hospital.

No child is allowed to return to school until inspected by the school medical officer, even although a certificate from the family physician has been produced.

Notice of the discharge of all patients from the Fever Hospital is forwarded to the school doctor, thus preventing another source whereby leakage might occur.

PUBLIC HEALTH DEPARTMENT.

SIR,

I beg to inform you that the following patients were discharged from the city hospitals during the week ending

Yours faithfully,

School Medical Officer.

Disinfection of Houses.

Disinfection of the houses occupied by the patients must be done before a child is allowed to return to school. When the health authorities are satisfied that this has been properly carried out, a notification is sent to the parents and also to the Education Department.

PARENT'S NOTICE.

Re *Scarlatina.*

SIR,

I beg to inform you that, as the process of disinfection has been carried out may return to school when certified as free from infection by the school medical officer, who will communicate with you.

Other children from your house may return to school on

Yours faithfully,

.....

MR.

Notification from Board of Health.

Notice to the Education Office:

SIR,

I beg to inform you that at the following premises the process of disinfection has been carried out, and the children may return to school on the undermentioned dates, or after inspection by the school medical officer.

I am, yours truly,

Medical Officer of Health.

From the foregoing it will readily be seen that almost every possible precaution is taken by the school and health authorities to prevent the spread of infectious disease. Swabs are taken in every case of sore throat, and are examined bacteriologically in a small laboratory adjoining the school clinic. This is done, as it is considered a speedier method than by going through the medium of the health officials. Sputum from suspected cases of tuberculosis is also examined in the same way.

Teeth.

Up to the present nothing has been done in the way of dental treatment. Parents, of course, are advised, as in other places, to consult a dentist, but in the majority of cases this advice is ignored. Recently a special recommendation was made to the Committee to have a school dentist appointed, and it was considered advisable that

the latter should be a man devoting his whole time to the work. A few months ago the teeth of 1,500 children were examined, so as to gain information as to the amount of decay which really existed. The condition of affairs was rather appalling. Out of 1,500 children only a very small percentage were found to have sound teeth, and only two had been treated by a dentist. A peculiar anomaly in connection with this examination was the fact that the largest percentage of sound teeth was among the children of the poorer classes.

Tuberculosis.

At present there is no provision made for children suffering from tuberculosis, but recently the Education Committee visited the Lancashire Sanatorium with a view to erecting a similar institution in Bradford.

Schools for the Mentally Defective.

Four have been established, for children of different ages. Principally manual work is taught, as in other places. Dr. Williams finds great difficulty in selecting suitable cases for these schools for the mentally defective, as the line, if one exists, is very narrow between cases of backward children gradually passing through the transition stages to one of imbecility. The term "mentally defective" is an elastic one, and capable of being interpreted in so many different ways; but no imbecile should be allowed, no matter under what pretext, to attend these schools.

Physically Defectives.

At present only the Open-Air School has been provided for the accommodation of physically defectives, but a special school is now in course of erection. Statistics were collected recently by the attendance officers, to give the Committee some idea of the number of cripples in Bradford. After a careful investigation, there were found to be seventy-four. Should it happen that a physically defective child is attending the ordinary school, a notice is always sent to the teacher, warning him that certain exercises must be avoided.

OPEN-AIR SCHOOL.

The principle of open-air schools originated in Germany, and it was not until about a year ago that Bradford took the matter up, on the recommendation of Dr. Crowley.

Site.

The school is situated on rising ground five miles from the centre of the city. The surroundings are five acres in extent, but a much



FIG. 8.—ONE-HALF OF SCHOOL RESTING-SHED, AND THREE CLASSROOMS, WITH THEIR VERANDAS.

larger piece of ground adjoining can be utilized. Surrounding three sides is an extensive wood. At present there are about eighty children in attendance, brought from the centre of the city by a special car at eight o'clock in the morning. All meals are provided at school.

Cases admitted.

No case of phthisis with expectoration is allowed in the school. Rhinorrhœa and otorrhœa are also excluded. The bulk of the cases attending are anæmia, malnutrition, enlarged glands, rickets, bronchitis, etc.

Equipment.

The classrooms accommodate from twenty to twenty-five children, and each room has a large veranda with a southerly aspect, to insure



FIG. 9.—GENERAL VIEW OF OPEN-AIR SCHOOL, SHOWING ALL THE VERANDAS FACING SOUTH.

a maximum amount of direct sunlight being obtained. The desks are single, and there is plenty of space around them. Most of the teaching is done in the verandas, which are exactly the same size as the classrooms. The latter are only utilized in very cold or wet weather, and are heated by means of a stove when necessary. The verandas are protected from the cold westerly winds and rain by means of revolving shutters.

Sleeping-Sheds.

The sleeping-sheds are large and open on three sides, and are protected in wet weather in a manner similar to the verandas. Every child must take an enforced rest of one hour and a half after dinner. For this purpose chairs similar to those used in the London schools, as well as rugs, are provided by the Committee.

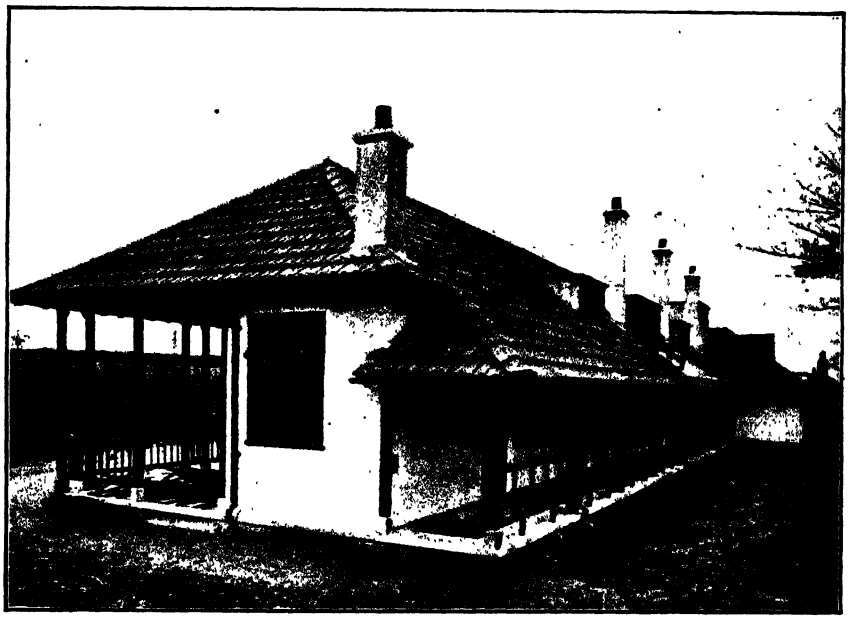


FIG. 10.—EAST END OF SCHOOL, SHOWING CORRIDOR RUNNING ALONG THE BACK OF THE BUILDING.

Routine.

The routine in a general way follows that carried out by the L.C.C. Each child has a bath once a week. It was intended to give two, but a difficulty arose on account of the limited water-supply. Physical exercise naturally forms an important part of the curriculum, as there is plenty of space in the immediate surroundings

for this purpose. Every child is weighed once a week; chest measurements are taken on entering and on leaving school, hæmoglobin



FIG. 11.—PHYSICAL DRILL IN FIELD

being estimated at the same time. The programme for the day is briefly as follows:

9 a.m., breakfast.
9.45 to 10.45, ordinary school-work.
10.45 to 11, play.
11 to 12, ordinary school-work.
12.30, dinner.
1 to 2.30, rest.
2.30 to 3, play.
3 to 4.30, school-work, outdoor lessons, Nature study, geography, etc.
5, tea.
5.30 to 6, play.

Meals.

The meals provided are in almost every respect similar in character to those referred to under the L.C.C. schools. Feeding is probably the most essential factor in the whole affair, but the system generally is an ideal one.

RESULTS OF OPEN-AIR TREATMENT.

Extension of School.

Bradford affords a pattern of school which might well be taken advantage of and adopted by every large town. The buildings are constructed of Frazzi, which is light, inexpensive, and fireproof, and



FIG. 12.—ENFORCED REST OF ONE AND A HALF HOURS AFTER DINNER IN RESTING-SHED.

the exterior is rough-cast. The school was only open for nine weeks last year, but the effect produced on weight, chest measurement, and the increase in hæmoglobin in this short space of time so satisfied the



FIG. 13.—REST IN WOOD IN WARMER WEATHER.



FIG. 14.—CLASS OF PHYSICAL EXERCISES IN THE WOODS.



FIG. 15.—CLASS OF BOYS ON VERANDA.



FIG. 16.—SEWING CLASS IN CLASSROOM (USED ONLY IN SEVERELY COLD WEATHER).

Committee of the advantages to be derived from a system of open-air teaching, that they have recently doubled the size of the building, which can now accommodate 150 children altogether. The illustrations give a good idea of the general arrangement of the Bradford Open-Air School.

SCHOOL FEEDING.

Provision of Food for School-Children at Bradford.

Bradford has adopted a system of school feeding which has attracted considerable criticism—in the main, adverse in character. If a child is underfed, a report is made by the medical officer to the Committee, who undertake to supply breakfast and dinner daily. The attendance officer receives instructions to make a thorough investigation into the financial position of the parents. If it be found that the average income does not exceed 3s. per head per week after rent is paid, free dinner is provided. If it does not exceed 2s., breakfast also is supplied. But any child may have dinner on payment of ½d., 1d., or 2d., according to the class of dinner desired. An interesting pamphlet was published recently by Dr. Crowley on the feeding of children. He enumerates a large variety of inexpensive dinners which had been provided for the children in Bradford during his régime. He also gives the actual cost for each child.

CHAPTER V

CAMBRIDGE DENTAL INSTITUTE

THIS was established in 1907, mainly through the instrumentality of Dr. George Cunningham, who had been for a long time trying to show the educational authorities the advantages which would be derived from an institution of this kind. Their hands were to a great extent tied owing to the state of the law at the time, which did not permit local authorities to spend public money on medical treatment, but they could do so for the purposes of medical examination of children.

Since then an Act has been passed allowing for treatment. The aim of this institution is, undoubtedly, conservative dentistry—that is, never to sacrifice a tooth which can be saved, and also to specialize on those children under eight years of age by making their mouths perfect and keeping them so. At first very great difficulty was experienced, owing to inability to obtain the parents' consent, which was absolutely necessary before any child could be submitted to treatment.

Dr. Cunningham's Report.

This consent was withheld until, by holding tea-meetings for the mothers in the neighbourhood of some of the schools, the need for attending to the children's teeth was explained, and "the improvement which would take place in health and appearance were their teeth properly filled and kept so, instead of being neglected and ultimately extracted," according to Dr. Cunningham's report read before the Annual General Meeting at Belfast on June 8, 1908. This goes on to say: "Experience soon proves that many children, if they had the stoppings done first, would not present themselves

afterwards for the necessary extractions; so a rule was adopted that no filling should be done until those temporary teeth which required it had been extracted. An exception, however, is always made with the worst permanent teeth, the immediate extraction of which is left optional to the child and its parents.

"The extractions are all done at the General Hospital, whose Governors generously placed an operating and waiting room at our disposal one afternoon a week. This plan is of great value, as removing much of a child's nervousness in coming to the Institute when it knows that no teeth will be extracted there.

"For the first month or two almost as many children refused to come, when asked, as came. But now, as the Institute and our methods are so much better known, there are rarely more than one or at the most two children in the day who do not attend when an appointment has been sent to them. At the very commencement one mother, after her child had been once to the Institute, wrote to the head-mistress saying that 'if she dared to send her child to the dentist again she [the mother] would have her taken before her betters,' and that 'she had no money to buy tooth-brushes with. Did the head-mistress expect her to clean the child's teeth with a hard broom, which was the only brush she had got?'

"The head-mistress replied courteously, and offered to buy a tooth-brush for her, adding that she would place the letter before the committee, after which she proposed to have it framed and hung up as a memento of the first objection to the movement. Immediately she received an apology, asking her not to do such a thing, and for the future the child could be sent to the Institute.

"The reference to the tooth-brushes was caused by some notes which are included on all our printed matter on the care of the teeth, and the importance of cleanliness in particular."

Although the first of its kind established in England, the time is not far distant when we shall see such institutions universally adopted, and the Cambridge Dental Institute will yet be recognized as the pioneer of a widespread movement which must command the sympathy and support of all educational authorities.

CHAPTER VI

MEDICAL INSPECTION IN SCOTLAND

UNDER the Education (Scotland) Act, 1908, several important points were inserted which materially differed from the English Act. Clause 4 of this Act, "Medical Inspection of Children," runs as follows:

"A School Board may, and where required by the Department shall, provide for the medical examination and supervision of the pupils attending schools within their district to such an extent and subject to such requirements as may from time to time be prescribed by any code or minute of the Department, and for the purposes of this Section, the School Board may employ medical officers or nurses, or arrange with voluntary agencies for the supply of nurses, and provide appliances or other requisites."

Object of Clause 4 of the Act.

Dr. Leslie McKenzie, medical adviser to the Local Government Board in Scotland, pointed out that the word "may" was used to give ample time to thoroughly understand the working of the Act before making what might prove too perfunctory appointments, and to allow the bigger towns—Edinburgh, Glasgow, etc.—to take the lead, and when the Department thought they were sufficiently advanced they should issue their mandate to all the educational bodies.

County Education Committee.

Under the County Council a certain committee was formed sixteen years ago in the different counties. This was known as the County Education Committee, which took charge of all subsidies for secondary education, etc. This committee gives part of subsidy

to assist School Boards also. Under Section 17 of the new Act, Clause 6, part of this grant from the Imperial Government must be devoted to medical inspection of schools supplemented by the rates. To prevent this County Education Committee taking sole control, Clause 6, which is as follows, was inserted:

Clause 6, Scotch Act.

"Where, under Section 4 of this Act, a School Board provides for the medical examination and supervision of children attending schools within their district, in accordance with a scheme prepared by the committee, or where a School Board district is coextensive with the district of a committee by the School Board and in either case approved by the Department, there shall be paid in each year to the School Board a sum equal to one-half of the cost incurred by them in making such provision." The scheme which has been adopted by nearly all the counties in Scotland is for the Board of Health to take charge and appoint assistants (with the consent of County Council and Central Education Committee) for—

(*a*) Medical inspection.
(*b*) Public health purposes.

Permission allowing Private Practitioner to examine Children.

Two very important points, one of which bears directly upon the question of interference with the prerogatives of the general practitioner, are included in a Memorandum issued by the Scottish Education Department to all School Boards, dated March 31, 1909 (Circular 421):

"1. It will not have escaped the notice of your Board that, in the event of their putting into force the powers conferred upon them by Section 4 of the Act, the medical supervision thus instituted will extend not merely to children in attendance at schools under their own management, but to children in attendance at schools within their district. It is quite possible that, either as a consequence of this or otherwise, cases may arise where parents may prefer to have

the details of the medical schedule filled in by their own family doctor. If a schedule so filled in be completed to the satisfaction of the school medical officer there is no reason why it should not be recognized, precisely as if the examination had been done by himself or by one of his assistants. As a matter of fact, examinations by the private physician will not be without their advantages. They will tend to economize the time of the school medical officer, and enable him to some extent to concentrate his energies on the remaining children; at the same time, they will serve to keep him in intimate official touch with the medical practitioners of the district, and to secure their professional goodwill and co-operation. It must, however, be clearly understood that any examination made at the public expense has to be conducted either by the school medical officer or by his private assistants."

Clause dealing with Scattered Districts.

"2. There is a final point, and it is one which the Department regard as of capital importance: the conditions prevailing in certain portions of Scotland, notably in the Highlands, the scattered character of the population, the difficulty of communication, and the like, are of a nature which may conceivably render it difficult to institute in the immediate future a comprehensive system of medical inspection such as can alone be satisfactory."

Suggested Method of overcoming Difficulty of Inspection in Scattered Districts.

These two clauses give a certain elasticity to an Act which would otherwise be too drastic, and will enable the educational bodies in the scattered districts to carefully consider a scheme before making their arrangements. It is quite obvious that in the outlying districts of Scotland a material part of a medical officer's time would be spent in travelling, and it might be preferable to establish centres where a number of children could be examined at one time. The cost of conveyance would not be great, and the school medical officer's time would be conserved.

In Australia, and in other parts of the world where a condition of affairs exists similar to that in Scotland, this is a question which must crop up when organizing a system of inspection. The solution of the difficulty is a purely financial one, and might be overcome by the appointment of local practitioners to supervise the schools in a manner similar to that done in connection with other public institutions.

Daily visiting is, of course, unnecessary, but an arrangement might be made whereby at regular intervals something of the nature of a routine inspection could be conducted, combined with a physical examination of all children who have not been seen by a medical man for two years. The cost of this method need not be excessive, and would provide a physical record for every child attending school, and at the same time would comply with all the conditions of the Act.

Question of Whole-Time Men.

One point in the Memorandum which should be referred to in this connection clearly indicates the opinion of the Education Board in regard to the employment of private practitioners. "To judge by the experience of England, it seems clear that, in ordinary circumstances, the assistants of the school medical officer ought to be, like himself, specialists expressly debarred by the terms of their agreement from engaging in private practice. Apart from other considerations, it is easy to foresee that complications may arise in the event, almost inevitable in a populous district, of one medical practitioner being called upon to examine a brother-practitioner's patients." To discuss this point in relation to scattered districts would be futile, as it is one which can only be solved by time and experience.

CHAPTER VII

EDINBURGH

History of Medical Inspection in Edinburgh.

THE system adopted here has the qualification, and in many ways the advantage, of being new. The question of medical inspection was not entertained by the school authorities until the passing of the Act, when the Board appointed Dr. Meikle to supervise some 50,000 children. The schools are well equipped, modern in construction, efficiently ventilated, and not overcrowded.

The watchword of the Scottish educational system is evidently "Thoroughness." They are slow to adopt new ideas, but very quick to realize the necessity for reforms when convinced that such are required.

The organization of a suitable scheme for the conditions existing in the city of Edinburgh has naturally taken up much of Dr. Meikle's time; yet during last year he has examined (physically) all children just entering school, and classified them according as their conditions are good, medium, or bad; he has inspected cases of contagious disease which have been excluded from attendance at school, looked after the mentally and physically defective, examined children referred to him by the head-masters, and generally supervised the working of the system so far as his limited time would permit.

New Appointments.

During recess the Board has appointed one whole-time assistant medical officer and two nurses; applications have also been called for an assistant (lady), but the salary offered not being equal to that of the other assistant, some medical journals have black-listed the

appointment, and great difficulty is being experienced in getting ladies to apply. The duties are of a similar nature, and it is argued that remuneration should not differ. With this staff Dr. Meikle hopes to be better able to cope with the work.

Method of Inspection.

The method of inspection adopted previous to the appointment of assistants is as follows: Fifteen or twenty children are brought into a special room to be examined. Their physical condition is recorded on a card, which is kept in school for future reference. A visit is then paid to all the classrooms, particularly with a view to the detection of cases of contagious disease. (At Drummond Street, which was visited, many cases of the latter were attending school, and a more rigorous policy is required if the Act is to be enforced.)

The anxiety of the teachers to maintain a good attendance record, on which the amount of their salaries depends, coupled with the indifference of the parents, is proving here, as in London, a serious obstacle to curtailing the spread of contagious disease. Many children suffering from ringworm and impetigo are in daily attendance at the Edinburgh schools.

Canongate School.

Canongate School is situated in one of the poorest localities, and although built twenty-two years ago, it is fitted with most modern requirements. The lavatory fittings are obsolete, and the old style of seating half a dozen children at each desk is adhered to. The arrangements made for lighting and ventilation are particularly good.

At both these schools (Drummond Street and Canongate) some of the poorest waifs and strays in the city are to be found. A large number are poorly fed and wretchedly clad, some with evidences of previous operation, and others with indications that future operative procedure will become necessary. Yet, considering this material, which has to be moulded and eventually turned out as efficient scholars,

it is surprising to see the gradual progress and improvement which take place during the transition stages.

Apart from the province of the school medical officer, the daily removal of these children from the environment of their squalid homes into the healthy atmosphere pervading the classrooms and recreation-ground is responsible for a marked improvement in physique, noticeable when comparing those just entering school with the pupils in the more advanced classes.

Boroughmuir School.

Boroughmuir School, which is in charge of Mr. Hutchison, is a magnificent structure erected two years ago, and the model might with advantage be adopted by any school authority. It is what is technically termed "a higher grade school," and was erected for the accommodation of pupils who have finished their elementary studies and intend adopting a University or scholastic career. The situation is an ideal one, overlooking the meadows, and the classrooms and passages large and lofty.

Gilmore Place and Sciennes Place Schools.

At the latter a central swimming-bath has been provided to accommodate pupils attending seven of the adjacent schools. Both these buildings are newly erected and of modern design. At the former an exhibition in fire-drill exercise by 1,060 children was arranged by the head-master, Mr. Johnston, and clearly demonstrated the advantage of the wide exits provided in these up-to-date buildings.

Attendance Officers.

Edinburgh has a very efficient corps of attendance officers, no less than twenty-three in number, whose chief duty is to see that the School Board regulations regarding attendance are carried out to the letter; and as they are the bogy-men of the truant and the parents who keep Sandy at home to mind the baby, their experiences must be varied and at times lurid.

Unauthorized Detention from School.

In all cases of unauthorized detention from school on the plea of illness, the parents are given notice in writing to bring their children to the medical officer, whose decision is final. Provision has been made for the examination at a stated time each week at the offices of the School Board.

Contagious Disease.

All cases of contagious disease excluded from school and those who have obtained sick leave must present themselves at these examinations for inspection, and a further period of leave or exclusion may be granted. Children being brought up for the first time under this section of the regulation are either—

(*a*) Referred to their private medical attendant; or

(*b*) Sent to a hospital or dispensary.

Where treatment has been neglected its necessity is impressed upon the parent, but nothing is done to see that it is carried out.

Treatment.

The policy of the School Board is evidently one of making haste slowly, as nothing has hitherto been done to secure the effective carrying out of the Act in the way of compelling parents to see that their children are attended to. Dr. Leslie McKenzie and Dr. Meikle state that as soon as the nurses have their work well in hand, it is the intention of the Board to use the full powers vested in them by the clauses in the Act dealing with this subject, so that no stone will be left unturned to carry out its provisions. These give them full power to prosecute any parent who neglects his child so that the latter suffers in his physical or bodily condition. As in Dunfermline and other places, pediculosis, both of the head and body, is rife, and arrangements are being made for treatment on modern lines by sterilizing the clothing, particularly of those infected with ringworm and scabies.

Ringworm and Favus.

Ringworm and favus are very prevalent in Edinburgh, probably more than half the exclusions for minor affections being due to these diseases. The Board is realizing that they are affecting the attendances to such an extent that they are contemplating the establishment of special schools on the L.C.C. principle.

In anticipation of the adoption of this scheme, the Board are assured of the hearty co-operation of Dr. Norman Walker, skin physician to the Royal Infirmary. The system of treatment by means of X rays has received almost universal support, and it is to superintend its application that Dr. Walker's services are considered necessary.

Special Schools.

Eighteen months ago a special school was established near Piers Hill, on the Portobello Road, and is conducted, in separate departments, for the education of the physically and mentally defective. The building, which was formerly used as an elementary school, is conveniently situated for the purpose. As the accommodation is limited to 80, and it is estimated that provision must be made for about 400, the Board are considering the establishment of three more on similar lines.

Physically Defectives.

Under this heading are placed all those children who in the opinion of the medical officer are unfit to attend the elementary school, excepting those suffering from infectious or contagious disease, deaf-mutism, or mental defects, for whom special provision is made. A scheme similar to that adopted in London is being carried out in connection with this school, those unable to walk being conveyed in an ambulance van to and from their homes. The ride is intensely enjoyed, as it is a luxury in which the poor can rarely indulge where the stress of poverty seems as acute as anywhere in the world. The clause in the Act empowering the Board to expend money for this purpose is as follows:

Act empowering Board to expend Money on Conveyance of Children—Education (Scotland) Act, 1908.

"In contributing towards, or, where deemed expedient, providing for, the maintenance and education in homes or other institutions within or without the district of the School Board (with due regard to the religious persuasion of the parents) of epileptic or crippled or defective children within the meaning of the Education of Defective Children (Scotland) Act, 1906, and in paying the cost of conveying such children to and from such homes or institutions."—Section 3, Clause 4.

Class of Cases dealt with at School for Physically Defectives.

It is a pleasure to see these children happy in their work, and one realizes and must admit that, after all, it *is* worth while, although one is often inclined to ask oneself the question "Is it?" when it is considered that several are probably on crutches, others may have only one lower limb, three or four with infantile paralysis, etc.—poor waifs of humanity, stricken with disease, whose only pleasure in life is to be driven down in the ambulance van, which is in charge of a nurse, and allowed to work alongside others equally afflicted. The majority of them are very intelligent, and some good work is done, especially where manual skill is required.

Mentally Defective.

Under this heading are included all children who have been to the ordinary school and sent on as incapable of learning. At a visit paid to this school the junior members of the class were found to be a very sad lot indeed. There was scarcely one who could be said to be sane, and more than half of them should certainly be in a home for imbeciles. But Dr. Meikle states that the only public institution of the kind which exists in Edinburgh makes a charge *per capita* of £40 per annum. The school was not intended for such as these, but they are admitted, as they have been pupils at some of the elementary schools before the special variety was started.

Higher Forms.

A marked contrast is immediately observed on visiting the higher forms. Although a sight of this class would shock the feelings of a University professor, the influence of the system of training employed was evidenced by their improved physique, gleams of intelligence, and the dexterity acquired by them, especially in their manual work. Even with such wretched material the Board seem sanguine that at least some will be enabled to provide for themselves in after-life. Such is their laudable aim, and they feel so satisfied with the little progress made that, as already mentioned, they propose extending the system by the establishment of several other schools throughout the city. Yet a sub-classification of mentally defectives must eventually be made, and the incurably imbecile provided for.

Infectious Diseases.

Co-ordination with the health authorities is the one essential factor when dealing with cases of infectious disease. Every case is not reported to the health authorities, as very often the parents have no doctor in attendance. They are hunted up by the attendance officer, who reports them to the head-master, who in his turn reports to the medical officer, who advises the Health Office. This seems to be rather a roundabout method, but apparently in practice it works fairly well.

Difficulty with Parents.

The main difficulty experienced is that all convalescent children in order to be allowed to return to school must produce a medical certificate This the parents refuse to procure, as they object to paying a medical man for a clean bill of health. The health officer has agreed to give certificates to all children brought to him, but again the parents object, as in thousands of instances they reside two, three, and four miles from his office, have other children at home, or they might be employed during the day, and this visit would necessitate absence from work. Their objection is a perfectly reasonable one, but a remedy is under consideration by the authorities.

Disinfecting the Homes.

The Health Act demands a thorough disinfection of the homes before children are allowed to return to school. This must be done under the supervision of a Board of Health Inspector, who is supplied with printed instructions for the efficient carrying out of the work.

Tuberculosis.

No provision has so far been made for the establishment of open-air schools, but a suitable site has been suggested, and a special committee of the Board has been appointed to thoroughly consider the whole question. Everywhere in Edinburgh one sees posted "Spitting is illegal," but no case has ever been known to be prosecuted, and spitting is rife all over the streets. Scores of cases of tuberculosis are living at home, infecting the houses and the people living in them. Some are being attended to at the Fever Hospital, but the cases of incipient phthisis, which really are in the stage to be benefited by treatment, are neglected.

Summary.

Beyond laying the foundation of a system and establishing a co-ordination with the Public Health Authorities little has been done; but, with its educational powers, its shrewd, level-headed authorities, and its ambitious population, it is to be expected that in the near future Edinburgh will not only aspire to, but eclipse, the most advanced cities of the world in its provision for the medical attention of its children.

The Financial Aspect.

The financial aspect is, as usual, one of the principal stumbling-blocks which are excrescences in the path of sociological reform. The waifs and strays who are drifting like the tide towards crime and immorality can only become useful citizens by studying their physical condition. The latter must ever be paramount if the mental condition is to be developed to such an extent as to enable them to battle with the vicissitudes and pitfalls into which frail

mortals may glide unwittingly. The degeneration of the body is only one step removed from that of the mind; in fact, the two are corollaries the one of the other, and it behoves every community to see that not only those who are in a financial position to educate their children do not neglect their physical condition. But it is a question of economics—whether it costs more to place your tatterdemalions of society, your poor derelicts, who suffer from diseases inherited from their forefathers, into such a position as will enable them to earn an honest livelihood, or to place upon the shoulders of the taxpayers the necessary cost of maintaining the prisons, lunatic asylums, and destitute homes.

Prevalence of Crime.

Official returns show that since the introduction of free education there has been a marked diminution of crime. Despite what has already been accomplished, there is much room for methods of improving the physical condition of the race, so as to still further curtail the number who are hopelessly drifting into the slough which engulfs so many of our struggling people. Scotland has always occupied a conspicuous and enviable position in the forefront of the leading primary education bodies of the world, with Edinburgh in the van, and the necessary expenditure must not be allowed to bar the way to regaining and maintaining her former status. Her position will inevitably be grasped from her if she allows Continental nations, such as Germany, to be looked up to by the people throughout the civilized world as more progressive from a physical education standpoint. The Scotch characteristic—a proverbial regard for the bawbees—is probably responsible for Edinburgh's lapse from her status to her present position of almost mediocrity.

CHAPTER VIII

GLASGOW

ALTHOUGH not the capital of Scotland, Glasgow occupies pride of place so far as population is concerned, and a visit paid to its schools is most instructive—not on account of its ordinary school system of medical inspection, but because of its "special" schools, for which it occupies a well-deserved position in the forefront.

History of Medical Inspection in Glasgow.

A limited system of medical supervision has been in vogue since 1874, particularly for the examination of the eyesight and hearing. For several years this system has been carried out by reason of the elasticity of the Education Act, which gives power to any Board to expend money on an object which it may deem proper and necessary. By a little manipulation the Act was made to embrace the appointment of a medical officer to do a certain class of work.

Previous to this, however, an eye-test form had been in existence, showing the condition of a child's vision from the time of his first entering into school until he leaves. This card also includes the number of attendances during the year. At the bottom of this schedule is the notice: "N.B.—This form, properly filled up, is to be returned to the head-master when the pupil leaves school. If he goes to another school, a copy of it is to be attached to the transfer schedule."

Directions to Teachers *re* Sight-Testing.

The directions given to teachers for eyesight testing are rather unique, and differ materially from those employed in other towns. They are as follows:

SCHOOL BOARD OF GLASGOW.

Eyesight Testing.

DIRECTIONS FOR TEACHERS OF THE JUNIOR AND SENIOR DIVISION.

There ought to be a combined Admission and Record of Eyesight Slip for each child in the class.

Each child in the class is to be tested by the teacher, and the result noted, in figures, in the proper columns of the Eyesight Slip bearing the child's name.

In addition to the foregoing, the names of those found defective (see italicized paragraph below), and those who squint, and any about whose eyesight the teacher may wish information, are to be entered in the "List of Children with Defective Vision."

Those whose names are on the "List of Defectives" will be brought before the oculist, who will examine them and add his notes. These notes will be afterwards copied into the Eyesight Slips by the teacher, who will also issue cards of notification to those whom the oculist indicates.

The "List of Defectives" is to be preserved, so that those on it who are absent at the time of the oculist's visit may be dealt with at subsequent visits.

After a reasonable interval the teacher will fill up the column on the Eyesight Slips headed "Result" for each child to whom a card was issued. The following signs will be used:

A. If glasses obtained.
B. If glasses prescribed by a doctor at an infirmary, dispensary, or elsewhere.
C. If glasses prescribed at an optician's shop.
D. If a doctor consulted, who advised that no glasses be worn.
E. If glasses were prescribed, but not obtained.
O. If nothing done by the parents.

Directions for Testing.—Do not expose the test-card except when in actual use, so that the letters may not be learned "by heart."

Hang the card in a good light, in such a way that the child does not face an outside window when reading it. A good position is on the side-wall which has no outside windows, nearly in line with the teacher's desk.

Measure off 20 feet, or 6 metres, across the front of the room, and chalk a line.

Direct the class to stand and turn away from the test-card.

Let each child come down in turn and toe the line.

Test the eyes separately, covering the eye not in use by holding

a stiff card in front of it. If pressure is made on the eye with the fingers, it will not see well when tested.

By pointing to the letters on the card find the lowest line in which the majority of the letters can be read.

Enter number of line read by each eye in the child's Record Slip.

If the line marked "9" is not read, enter the child's name in the "List of Children having Defective Vision," and in the vision column state the number of the lowest line which is read. If no letters can be read, enter a figure 0.

If the child has glasses, test with them on.

Carry out the testing in as clear daylight as possible.

Special Schools.

Fifteen schools, which are always well filled, have already been established in Glasgow to accommodate those children who are either mentally or physically defective. The two are combined in every instance, probably for the purpose of reducing the expense incurred in conveying the pupils to and from their homes. The physically defective naturally occupy the ground-floor, the second story being reserved for the others.

Certificate for Admission to Cripples' School.

Each child must be examined before admission by the chief officer for the School Board, who is sole referee. On his certificate an admission order is issued, as follows:

DEAR SIR,

The following child has been certified as suitable for admission to the Cripples' School. Please arrange for his admission.

Physically Defectives' School—Cases suitable for Admission.

Under this heading are included, not only spinal, heart, and joint cases, but epileptics are admitted, as well as a large number suffering from discharging tuberculous sores, hip-joint and glandular affections being included.

Hayfield School.

On entering Hayfield School, which is under the care of Miss Blyth, and is a modern structure erected for the purpose, almost every variety of deformity meets the eye. Glasgow is notorious throughout the medical profession for the large number of children with distorted limbs, and a physically defectives' school exemplifies this fact in a decidedly marked degree. Many are bandy-legged, with the enlarged joints and protuberant bellies indicative of rachitis. Quite a number are wearing various forms of orthopædic apparatus. Several have specially constructed chairs, to enable them to recline in as comfortable a position as possible. Others, again, are huddled together three on one bench, endeavouring to execute different varieties of school work. Scattered here and there are discharging cervical abscesses, cases of infantile paralysis and hip disease, while the blue lips of congenital heart disease are a noticeable feature. In a room set apart for the purpose the nurse may be seen busily engaged in dressing cases where required. It seems rather unusual, not to say inconsistent, to run the risk of possible dissemination of tubercle among weak and delicate children in this way.

Nurse's Duties.

The nurse's duties are of a multifarious character.

1. She must accompany the ambulance, assisting each child in and out, and carry any unable to walk. No child is allowed to enter or leave the ambulance unless the nurse is present.
2. The nurse uses her own discretion as to collection, but she must endeavour to secure as large an attendance as possible. She must make one or more rounds, but the ambulance must at no time be overcrowded. Children living near and who are well enough to walk to and from school are required to do so.
3. During the interval and play hours the nurse is responsible for the children, with the assistance of lady helpers and

the cook. She has to serve out dinners, and try to teach the children to eat slowly and behave properly. Children who bring their own food can eat it at the table with the others, plates, etc., being supplied. The nurse gives cod-liver oil, etc., to any children ordered same.

4. The nurse sees that each child's face and hands are washed at the close of morning school, before dinner—oftener, if necessary; but unless specially directed, she is not required to bath children. Her duty is to see that mothers send them in a clean condition. Any case not so is to be reported to the head-teacher, who communicates with School Attendance Department.
5. The nurse must do necessary surgical dressings, etc., during school hours, arranging with the teacher to allow children out in turns. She must be within call, to attend to the needs of any of the children. When the doctor calls she must point out any child about whom she wishes advice, but these examinations must not take the place of the regular outside medical attention by the family physician.
6. The nurse collects daily or weekly, *in advance*, from the parents the money for their children's dinners, and must see that food is sent with any child for whom payment is not made. This money is handed over to the Ladies' Committee at stated times. The amount charged for food is 1½d. per day, or 7½d. per week. If lunch, cod-liver oil, or chemical food be given, an extra 1d. per week is charged.
7. The nurse is not called upon to help with the mentally defectives, unless they are also physically defective or have wounds requiring dressing.

Besides these, there are several other rules of minor importance. Many physically defectives, particularly cases of malnutrition, rickets, infantile paralysis, and even where amputation of the leg has been performed, are returned to the ordinary school if the chief medical officer considers they are physically fit. Twenty cases, or

nearly 25 per cent., from Hayfield School were returned between June and October, 1909. Special care is taken in cases of heart disease sent to this school, and during the compensation stage treatment by graduated exercises is carried out.

Aberfoyle Sanatorium.

Some cases, particularly of incipient phthisis, are sent for rest and treatment to a home at Aberfoyle, which is under the control of the Board. Here teachers are also provided, so that the education goes on as before.

Children's Observation Society.

Difficulty is often met with in ascertaining the family history and the financial position of parents. This is obviated by means of a Ladies' Committee (Children's Observation Society) visiting the homes, and if the cases are deserving they meet the expenditure required by the Board. By a somewhat drastic regulation in connection with this Society, the unfortunate children of drunken parents are not assisted. This decision is open to question. Further, these ladies have established industrial parlours, to provide amusements and recreation after school hours.

Conveyance to School.

Between 9 and 9.30 the children arrive in the ambulance van. Before a child's first attendance parents are notified by the head-teacher as to the time the van will call, as follows:

SCHOOL BOARD OF GLASGOW.

..... School.

Special Classes.

I have to inform you that the school van will call for to-morrow morning. Please send birth certificate with

Head-Teacher.

Date 19...

Routine practised at School.

Twenty minutes' interval, between 10.40 and 11, is allowed for lunch; one hour and twenty minutes for dinner, and at 3 the process of returning the children to their homes commences. Early arrivals are employed at manual work or physical exercises, and when the van has gathered them all actual school work begins. The principal aim of the department in establishing these schools is to so materially improve the general health of those physically defective that it will not be necessary to retain them during the whole term of their scholastic career.

Results obtained by Special School.

A large number are drafted out at regular intervals, as they are considered by the school physician to be in a fit condition to return to the ordinary schools. The shortening of the school hours, the lengthening of the time devoted to manual work and recreation, the provision of suitable food, the limitation of the classes, the extra individual care bestowed, and the constant supervision of a medical officer and trained nurse, must tend to render them of special value as compared with the elementary schools.

Mentally Defectives, Bridgeton School.

The Bridgeton school for mentally defectives is a typical example of those which have been provided in Glasgow for the care of children who are only a stage removed from that of imbecility. Many of these unfortunates are picked up off the streets, barefooted and miserably clad, hungry and footsore, their eyes swollen and congested through their inability to acquire suitable rest and sleep. During the day they are compelled to attend school by the ever-vigilant attendance officers, and often until twelve o'clock at night they are striving to earn a crust by vending newspapers or matches.

The masters in the elementary schools must refer them to the medical officer for examination, as they have not acquired sufficient knowledge to entitle them to promotion to a higher class, and it is little wonder that in many cases their mental equilibrium is unhinged.

Result of Training at the Schools for the Mentally Defective.

These are taken care of and fed, the result being that a fair percentage become decent members of society; but, of course, a large number (Miss Monteagle, the lady in charge, thinks 50 per cent.) after the age of sixteen again drift into their former habits. She is of opinion that the majority of the new arrivals might well be classed under this category. This institution is conducted on lines similar to the physically unfit, except that special attention must be devoted to their mental condition, and the scholastic work is necessarily of a rudimentary character.

Class of Cases admitted.

Only those physically defective, as well as being mentally defective, and a number who would otherwise evade attendance unless actually brought, have the use of the ambulance van. Considering the material the teachers have to work on, the 50 per cent. average mentioned above is an excellent one. But after a visit to the institution, one doubts whether this can be maintained. Education is compulsory to the age of sixteen, unless under the circumstances referred to in dealing with the London system. Many are transferred to a lunatic asylum or imbecile home, while, on the other hand, quite a number are at intervals passed into the ordinary elementary school.

Semi-Deaf and Semi-Mute.

A striking feature of the Glasgow educational system is a special school for semi-deaf and semi-mute, who, under modern systems of education, develop into useful citizens. This was started at the instigation of Dr. James Kerr Love, who is aural surgeon to the Glasgow Royal Infirmary, and also aurist to the Glasgow Deaf and Dumb Institution. This special school, which is the first of its kind in existence, was the outcome of a suggestion made by him to the School Board, who agreed to provide him with a room in one of the schools for the specific purpose of special tuition.

Object of the Special School for Semi-deaf Cases.

The school is not one which proposes to compete with the institutions for the education of the deaf and dumb. It purposes to deal with a class which stands between the deaf-mute and the hearing child, and who should never associate with the deaf and dumb at all. The building is by no means pretentious and the classes are under the control of a lady aural teacher, Miss Douglas. There are twenty-seven on the roll, and applications are continually being made for admission, but the limited accommodation at the disposal of the authorities will necessitate further provision being made in the near future. A visit to this school affords an instructive lesson on the possibilities of an organized method of tuition.

Cases treated at the School.

Some of these children are semi-deaf as the result of scarlatina, others from measles or cerebral spinal fever. "This disease," according to Dr. Kerr Love, "usually destroys the hearing completely, and the children are semi-mute—*i.e.*, the remaining speech is the recollection of former speech, and not the result of present hearing. Two children were both semi-deaf and semi-mute. Much of their speech was recollected speech; much they are learning now is conveyed to them through the auditory nerve. As an illustration of the rapidity with which speech leaves a child who has been suddenly made quite deaf, I adduce the following:

"'A boy had cerebral spinal fever in Ruchill Hospital from February to June, 1907. In July, 1908, he could repeat the numerals 1 to 10 to me, although his father stated that for two or three months his speech was rapidly leaving him. When he was admitted to the school in August, 1908, a month after my examination, not only had every vestige of speech gone, but also his voice, and it took several months to reproduce his voice and to resurrect his lost speech.'"

Many children had been in previous attendance at the ordinary schools until stricken with the illness which was the forerunner of

their present condition, when on their return the teachers found they were unable to deal with them. The junior class (at a visit paid to this school), after only a month's tuition, readily grasped the meaning of any question asked of an elementary character.

Method of Tuition.

Lip-reading forms a material portion of the system of training. The well-known dumb alphabet is strictly forbidden, and any attempt to communicate by its means is rigidly discountenanced. The aim of the authorities in building a new school is to embrace all children suffering from similar affections throughout the whole of the West of Scotland.

Cost to Parents.

A charge of £8 per annum for each child is made, to meet the extra cost entailed by the Board in remunerating special teachers, and it is to be regretted that the authorities cannot see their way to placing a school of this description on the same basis as their other special schools, so that parents unable to afford the rather prohibitive fee may be enabled to avail themselves of the facilities offered.

Dr. Kerr Love's Opinion on this Class of School.

To quote Dr. Kerr Love: "It seems curious that this class of children, with valuable remains of speech and hearing, with habits of thought belonging to the hearing, and not to the silent, world, should have been left so long without any proper educational provision. To take them from their homes at all is in most cases an unnecessary hardship. To educate them along with the born deaf, even when the latter are orally taught, is a proceeding which could only be justified because no other provision existed. To educate them in a finger-spelling or a combined school degrades their thought methods, and causes some of them to lose their remaining speech. The medical inspection of school-children will change all this. Not only will the institutions be filled to overflowing, but special classes will arise everywhere when the number of these semi-deaf and semi-mute

children is ascertained and their needs understood." Dr. Love and the very capable schoolmistress Miss Douglas are to be congratulated upon the success which has so far attended their united efforts.

Tuberculosis and Diphtheria.

Glasgow has for some considerable time been well to the front in regard to the early recognition of these diseases. Every medical man is supplied with sputum bottles and diphtheria swabs. In these he forwards specimens to the Board of Health laboratory for examination, and the result is posted to him free of charge. This scheme has been in existence for a number of years, and is only one step removed from the more elaborate system in vogue in the United States.

Cost of Medical Inspection in Glasgow.

This is the great difficulty which is besetting the paths of the various educational authorities all over Scotland. Glasgow is anxious as a School Board to fall in line as far as possible with the wishes of the Scotch Education Board, who have pointed out that they can only recommend a system of whole-time men. But the School Board are inclined to adopt the one in vogue in London by having the work done by part-time men, under the supervision of a chief medical officer. They therefore advertised for one whole-time man, giving him a salary of £500 per annum, exclusive of travelling expenses, and twenty part-time men at £80 per annum, for seven and a half hours' service per week, or at the rate of 5s. 4d. per hour. The Glasgow branch of the British Medical Association, however, decided that medical men would not be sufficiently paid at this rate. They were backed up by the *British Medical Journal*, which paper immediately black-listed the appointments, and the result of their united action has been that a dead-lock has eventuated.

Action of Glasgow Medical Association.

At a meeting of the Glasgow branch, held on August 25, 1908, a deputation was appointed to wait on the Board with the request as follows: "That the salaries of part-time medical assistants be based

on a system of payment consistent with the time devoted to the work, with a minimum of £50 per annum in respect of each school session of two hours per week." The committee appointed waited on the Board, and explained that elsewhere part-time medical officers were receiving a minimum salary of 10s. per hour. They pointed out that in English towns and in Govan the medical men were receiving 12s. 6d. per hour, and that they did not wish to fight or dictate to the Board, but asked the latter to reconsider the terms offered for the part-time medical appointments, and they would await its decision.

Glasgow School Board's Reply.

The following reply to the deputation was received: "Having heard the report and interview between the deputation of the British Medical Association and the committee of medical inspection of scholars, the Board consider it unnecessary at this stage to give further instructions to the committee." The Board told them that they were surprised at their request, as they (the Board) were of opinion that they were doing a service to the medical men of Glasgow, and that it was new to have medical men interesting themselves in such sublunary affairs as that of salary, and it was hinted that their action savoured of trade-unionism.

Resolution of Medical Association.

At a meeting of the Branch Council a motion was submitted by the Council, as follows:

"That this meeting of the Glasgow and West of Scotland Branch of the British Medical Association and of practitioners resident in Glasgow and district regrets that the School Board refuses to reconsider the terms of the appointment of the part-time medical officers, and recommends that applicants for these posts in the meantime should withdraw their applications." Considerable discussion ensued, and an amendment was submitted, regretting the action of the Board, and hoping that after a year's work they would see their way to a more reasonable rate. The amendment was not seconded, and as a result the Council passed the following resolution:

Final Resolution of Medical Association.

"That the branch and practitioners in the meeting request that the Glasgow School Board part-time appointments be placed on the warning notices of the *British Medical Journal*." This has been done, but notwithstanding the protest and resolution, a large number of applications have been received for the appointments, and it is stated that very little difficulty will be experienced in securing suitable men for the positions. This is open to question, as it is considered exceedingly doubtful if the best men will apply. The matter rests in abeyance for the present. A whole-time man has been appointed, and it is the intention of the School Board to fill up the other appointments at an early date.

CHAPTER IX

GOVAN

Appointment of Medical Officers.

ALTHOUGH really part of Glasgow, the Govan School Board is distinct and separate. The medical staff consists of one whole-time medical man, receiving a salary of £500 per annum, with the same privileges as in Glasgow, and ten men at a salary of £75 per annum, working three hours per week. For the past two years they have been working with the ten men only, each man having a group of schools with 3,500 to 4,000 children. Recently, however, owing to the action of the Scotch Education Board, who considered the system unsatisfactory, they appointed a whole-time man, and will continue the part-time men as long as they are allowed to do so by the Scotch Education Department. It must be clearly understood that the latter is of the opinion that unless a man devotes his whole time to the work the result will not be satisfactory. The following are the duties:

Duties of the Medical Officer of Schools.

1. He shall advise the Board as to the ventilation, heating, lighting, and cleanliness of the schools. He shall periodically inspect all school lavatories and other sanitary installations, and shall report immediately to the headmaster and, if necessary, to the Master of Works, any insanitary conditions discovered.
2. On receiving intimation of an outbreak of infectious disease among the pupils attending any school, he shall at once inquire into the outbreak. He shall take such action as may be immediately necessary, and he shall, as soon as practicable, report the result of this inquiry to the Board and to the Medical Officer of Health for the district, and

shall co-operate with him in any measures he may propose for the prevention of infection.

3. He shall advise the Board as to the necessity for periodic disinfection and cleansing of the schools, with a view to the prevention of disease.
4. He shall make such examination as the Board require as to the mental and physical condition of children seeking admission to special schools or classes, and shall grant the necessary certificates.
5. He shall medically superintend such special schools and classes as may be allotted to him; he shall report to the Board twice a year on the mental and physical progress of the children attending these classes and schools, and he shall indicate any measures that may be advisable for the preservation or promotion of their health.
6. To the extent and in the form prescribed from time to time by the Board, he shall medically examine the pupils attending the schools, and shall preserve and maintain on approved schedules a record of the examination of each child.
7. He shall not be required to examine all the scholars at present in attendance, but he shall be expected to examine all the scholars in the infant departments and in Standards I. and II. between September, 1907, and June, 1908; he shall examine all scholars on admission, and twice thereafter during their school life. For the purposes of this examination, he shall visit the schools as often as may be necessary, but at least once a fortnight.
8. If any child is specially reported to him by the head-master as suffering from any ailment of defect or injury, he shall as soon as possible examine the child, and give such directions as may be necessary.
9. He shall organize and superintend such systematic measurements and observations as the Board shall institute or approve—for example, measurements of height, and weight improvement, or deterioration of physique, and the like.
10. He shall from time to time inspect the physical exercises given in the schools, and shall report to the Board any practices that he considers injurious to individual pupils.
11. When required, he shall medically examine children appointed to positions under the Board—junior students and intending junior students—and report in cases of employees absent owing to illness.

12. He shall, after such examination as he may find necessary, certify the fitness of teachers or pupils to undergo special courses of physical training.
13. He shall, by lecture, demonstration, or otherwise, instruct the teachers in the methods of recognizing the common ailments and defects of school-children, in the practice of first aid for school accidents, in the general hygiene of the school and class room, and in the physiological principles that underlie physical training.
14. He shall keep such records and books as the Board may prescribe or approve, he shall submit an annual report on the work done, and he shall make such special reports as the Board may require.
15. He shall perform any other medical duties that may be from time to time required by the Board, but medical or surgical treatment shall be no part of the medical officer's duty.

OFFICE OF THE BOARD,
151, BATH STREET, GLASGOW,
23rd May, 1907.

The Working of the Govan System.

This list of duties is given fully, as they seem to be succinctly and clearly defined, and cover all the multifarious duties which should be performed by a school medical officer. From information gathered, the Govan scheme has been most satisfactory. The men work harmoniously together; but, of course, it was found that certain duties were not performed to the full satisfaction of the Scottish Education Department, and the result has been the appointment of a whole-time man, who will supervise the work generally and have the other men assisting him, as urgent cases can more easily and quickly be attended to and the spread of infectious disease more readily prevented. He could probe into a matter which required an investigation, which could not be done by part-time men, with only a minimum amount of time at their disposal.

CHAPTER X

FIFESHIRE

THE system adopted for the medical inspection of children in the "Kingdom of Fife" was organized by the very energetic medical officer for the county, Dr. T. F. Dewar, and received the special commendation of the Scotch Education Board. This county is always one of the first in the field in adopting any new scheme or principle which commends itself as likely to prove beneficial to the general community. Dr. Dewar's untiring zeal and disinterested motives seem to have inspired the County Council with unbounded confidence in his organizing capabilities, and they practically allowed him a free hand in the administration of his department. At the request of his Council he prepared his scheme, which was adopted by them practically *in toto*. The county administration is distinct from that of the borough of Dunfermline, which is ruled by a Board of its own. This separate action of Dunfermline had the approval of the County Council, which agreed: "That in the event of the School Board of the Borough of Dunfermline preferring to organize its own medical service, payment will be made to the said School Board of one-half the cost of such medical inspection, subject to the conditions that the county scheme is generally followed, and that the School Board of that borough reports annually to the committee on the work."

Division of County.

The county is divided into four districts, each of which has about 10,000 children, and is controlled by a district medical officer. These gentlemen act as assistants to Dr. Dewar, and, in addition to their duties as school medical officers, they undertake such duties connected

with public health as may be arranged. A qualified lady doctor has also been appointed to deal with the higher class intermediate schools, senior girls in the elementary schools, and special cases as they arise.

Provision for Nurses.

Provision for securing the services of trained nurses has been made by the adoption of the following resolution:

> That the committee avail themselves of the services of existing Nurses' Associations, so far as may be found practicable, and by payment to such association, as may be arranged, secure the services of the district nurse in the medical inspection of young children and in special cases calling for treatment.

Necessity for Medical Inspection.

Dr. Dewar has very decided opinions on the question of medical inspection. To quote his own words: "Is medical inspection of school-children necessary? Moving here and there through Fifeshire during the past three or four months, I have found—and have been delighted to find—a practical unanimity on this subject among the members of the teaching profession—that is, among those best qualified to form a mature, deliberate, and sound opinion. But that is not enough. We want to demonstrate its necessity to the average parent and to the average ratepayer. Therefore—

"1. Since the State compels the attendance of the child at school, it is clearly their duty not merely to provide a healthy and decently comfortable environment, but also to secure that no child be educated to its hurt, that a child be never compelled to attend school to its own injury.

"2. We must point to the misery which many children undergo all through school-life owing to some defect of vision or hearing—some trouble capable, it may be, of easy remedy or alleviation.

"3. We draw attention to the fact that many grave ailments of lung or bowel, of nerve-tissue or spine, come on very insidiously, and the whole issue of life and death depends upon their early detection.

"4. We point to the infectious maladies of school-life, where prompt exclusion of the first case leads to the prevention of an epidemic.

"5. We point to the minor parasitic affections of childhood—minor in one sense, but of enormous importance from the sociological standpoint, since there are thousands of children who not only suffer discomfort themselves, but cause unhappiness to their close associates."

Benefits to be derived from School Medical Inspection.

"The next point which has to be considered is, What are the benefits which it is hoped to secure by medical inspection of schools?

"1. There will be a statistical gain. The number of children who attend school must materially increase, owing to the exclusions being reduced.

"2. We are bound to secure cleaner schools, particularly as regards maladies of a parasitic nature. Every teacher has painful experience of the difficulties arising through the presence of vermin, and by ringworm, impetigo, and other skin affections. As a result of medical inspection, aided by the District Nursing Associations and their nurses, and of the family doctors, we are going to use the powers conferred by Section 6 of the Act, by the Children Act, and the Public Health Act, for compassing a remedy.

"3. The local authorities spend large sums of money in the burghs and rural districts to check the spread of infectious diseases, particularly scarlet fever and diphtheria. Classes have been denuded of their pupils through the spread of every class of infectious disease. We have so far been powerless to check them, but by the appointment of school clerks we hope to reduce the number of cases, if not entirely eradicate them.

"Medical inspection does not necessarily imply treatment—that remains a matter for the parent; but we hope to see that no child with any material physical defect will be allowed to grow up without something being done to prevent it, as these ailments will be detected before the constitution has been materially damaged; that delicate

children are not compelled to do tasks beyond their endurance; that the totally unfit are exempted altogether; and that incipient diseases of the chest and other organs, of the rapidly growing bones and brains of children, if physically defective, are treated at a time when remedies will be most potent; that deaf or partially deaf children are not punished for inattention or stupidity, and that short-sighted children are not allowed to strain their eyes in a hopeless endeavour to see objects only a few yards away. These are some of the things we hope to remedy."

Duties of School Medical Officer.

The duties of the school medical officer will be as follows:

1. To be engaged daily in the actual work of *medical inspection*. Every child, it is hoped, will be examined at least three times during the course of his career.
 i. During the first year of his school life.
 ii. Between the ages of eight and eleven.
 iii. On leaving school.

Previous to this physical examination a card is sent to the parent, as follows:

I beg to inform you that the school medical officer will visit the school on at, when it is hoped either you or some relation or friend will meet the medical officer at the school at the time mentioned.

.....

Head-Master.

Form to be filled in by Parents.

Name of school
Parent's name
Parent's occupation
Parent's address
Name of pupil
Age of pupil
Date of birth
Place of birth

Will you kindly place a cross thus (×) opposite any of the following diseases from which your child may have suffered:

Measles	Whooping-cough	Scarlet fever
Diphtheria	Chicken-pox	Other illnesses

Note.—Kindly return this card to the head-master a few days previous to this inspection.

2. After school-hours to conduct the correspondence entailed by his duties.
3. To assist in the re-examination of cases deferred for further inspection. At each visit what are termed non-routine cases—cases of previously unnoticed defects and all cases head-master desires him to see.
4. To generally supervise the sanitary condition of the schools, including light and air.
5. To give such lectures on hygiene and home nursing as may be arranged by the committee.
6. To pop in unadvised at school, particularly with a view to detecting contagion and to follow up non-routine cases. One-fifth of his time is arranged for suspicious cases, and for any cases on which the principal desires a report. If cases of infection are discovered, he must make a thorough investigation, trace them to their source, and isolate the houses in which they originated, and exclude all such children from attending school.

Case of Unreported Scarlatina.

The advisableness of prompt action under this clause was clearly demonstrated during a visit paid to this district. The medical inspector was informed by the head-teacher that two children suffering from scarlatina were absent from school. On visiting their homes he found that the patients were not only receiving no medical attendance, but the disease had spread to several neighbouring dwellings, necessitating the isolation of no less than nine children. The newly-appointed inspectors were making themselves acquainted with the schools, schoolmasters, and district generally, with a view to exercising the greatest economy in time and distance.

Nursing Arrangements.

Arrangements have been made with the Nursing Association for a nurse to attend at the first examination, to give such assistance as is required by the doctor in the inspection of young children; also to visit at the homes children requiring special attention, and report to the school medical officer where action is considered necessary.

The inspection of each child is to be thorough, as an average of only eight examinations an hour is aimed at. To insure thorough-

ness, no space in the inspection card is to be left blank. To save unnecessary writing, a code has been elaborated by Dr. Dewar (abbreviations being used for different diseases).

Classification of Schedules used in Fifeshire.

1. Preliminary investigation card. Prior to the inspection the head-master sends this card to the parent to fill up. The parent returns it, and the information is then copied by his class teacher on the back of the child's inspection card.
2. Inspection card proper is of two colours for the two sexes.
3. A special card, coloured differently, is to be clipped on the back of the inspection card in the case of those children who have some defect for which they should be kept under continuous observation. These *specials* have to be kept separate in a division of the head-master's card-box, and have to be produced every time the inspector visits the school.
4. Non-routine card, coloured a fourth colour. When every child is not due for inspection, but in the head-master's opinion requires examination, a special non-routine card is used.

The record compiled at the first inspection remains as a record during the child's school career, and is passed on from school to school as the child changes his residence. The second examination, at eight years of age, is particularly desirable, as at that date the second or permanent teeth are being cut, and irregularities should be detected and treated. A sight-test with Snellen's types is not made until this examination, as the local medical officers are of opinion that at this age a child is more easily handled than at the first inspection; but should a palpable defect in vision be surmised at any age, the child is referred to a specialist.

Procedure at Examination.

A mere inspection, however, is of absolutely no value unless action is taken afterwards on the results of that inspection. The procedure in Fife is:

1. Parents are asked to be present at the examination of their

children, so that the inspector may advise them personally as to their defects, and show them the necessity for treatment.

2. Advantage is to be taken of the respect in which teachers are held in order that they also may persuade the parents to obtain and carry out treatment.

3. In such a scattered district as this part of Scotland it would be practically impossible to employ a school nurse, and so the district nurses are being employed to follow up the cases in order to see that they obtain treatment.

Special Cases dealt with separately.

1. *Verminous children.*
 - (*a*) Persuasion will first be used.
 - (*b*) If this has no effect, advantage will be taken of the 1909 Education Act of Scotland, under which, if cases of verminous children are reported to the School Board, the latter must take action.
 - (*c*) As a rule, where there is a dirty child there is a dirty house. This will be reported to the sanitary inspector, who can take action under the nuisance section of the Public Health Act of Scotland.
2. *Underfed and neglected children.*
 Thorough investigations will be made into the circumstances and action taken where necessary.
3. *Defective children.*
 Wherever possible, special classes will be formed for them.

Infectious Diseases.

The following form is used by the head-master for notifying the school medical officer of cases of infectious disease:

..... . *Public School.*

The following are reported to be suffering from

Name..... *Address*

.....

..... 19 . . *Head-Master.*

Tuberculosis and Diphtheria.

All suspected cases are reported to the Board of Health. The medical inspector forwards any specimens obtained to the Bacteriological Department at Dundee for a report. A charge of four shillings is made, the fee being paid by the Board of Health to the laboratory authorities for each examination. So far cases have not been sufficiently numerous to warrant the establishment of a bacteriological laboratory in Fifeshire, but there is little doubt that, should occasion warrant it, the County Council will not be slow to make the necessary provision.

Apparatus for measuring weight and height has been provided at all the schools. The pattern is certainly new, but appears unsuitable for the class of children to be dealt with.

Class of School in Fifeshire.

During a visit paid to six schools—Collessie (with 64 on the roll), Strathmiglo (194), Gateside (94), Auchtermuchty (265), Newburgh (400), and Fruchie (185)—the children in most instances looked in the robust health which is usually found in Scotch country districts, but the decay in teeth through inattention was very noticeable. The initiation of a system of medical supervision was badly needed in Fifeshire, and Dr. Dewar and his recently-appointed assistants will find plenty of scope for their ingenuity and resource, not only in fulfilling their duty towards the children, but in effecting hygienic improvements in the school premises.

Feeding and Care of Infants.

This is the title of a very instructive card which has been prepared by Dr. Dewar and distributed throughout the county. It gives all particulars of what should be done and what ought to be avoided, as well as a scale of dietary for infants from their earliest days. He has come to realize that if an infant is to become fit to imbibe his education he must be prepared for it from birth, as many children have to thank their parents for their infirmities, which are often due to injudicious feeding or neglect during their infancy.

CHAPTER XI

DUNFERMLINE

Description of Town.

DUNFERMLINE is the most historic town in Scotland, and also its ancient capital. Here rest the bones of many Scottish Kings, including Robert the Bruce, and it is not difficult to realize its antiquity. Its ancient landmarks carry us back almost into prehistoric times, and remind us of the long-continued strife which enabled Scotland for many years to assert her independence.

Carnegie Trust.

Dunfermline is the birthplace of Mr. Andrew Carnegie, who celebrated this fact a few years ago by endowing it with a trust fund which realizes £25,000 a year. The custodians of this trust were the first public body in Scotland to recognize the necessity for medical inspection in the public schools. Mr. Carnegie has done a great deal more for this town by establishing free baths, the Carnegie bath, and a magnificent institute. The baths are open at all times for the use of the public, and the institute has various departments, including a fine gymnasium, which is utilized by all the schools. The streets, however, are particularly narrow, even the institute being situated in a street little more than 30 feet wide. Although the town is so handsomely endowed, the whole of the money is required for the upkeep and maintenance of the various benefactions. Mr. Carnegie will do nothing to relieve the municipality of many of its responsibilities, the consequence being that Dunfermline still remains very much in its primitive state, the houses dirty-looking and the streets in not too sanitary a condition. There

is much to be desired, and the surprise is that such elaborate buildings should be erected in positions surrounded by squalid tenements and approximate relations not consonant with the general ideas of the benefactor. The custodians of the trust, owing to the conditions and provisos laid down, are powerless to remedy them, although frankly admitting that the evils exist.

Institution of Scheme for Medical Inspection.

The medical officer of schools, Dr. Bridge, experienced great difficulty in initiating a workable system. Being the first town in Scotland to adopt the scheme, great opposition was experienced through the parents offering all sorts of objections to the children being examined and reported on without the necessary constitutional authority. The medical men in the town were not slow to foster this idea, and the consequence was that for some time, the examination being of a voluntary character, many children escaped. This tended to nullify the whole system and render it more or less abortive.

Payment of Medical Officers.

Latterly a scheme adopted by the trust has received the approval of the Local Government Board, and Dunfermline now receives from the County Council the same proportion *per capita* from the rates for medical inspection purposes as if included in the county of Fife. This amount being insufficient, it is supplemented by an allowance from the Carnegie Trust, who, acting in conjunction with the School Board, form a combined body that supervises all educational matters. Prior to this the arrangements for medical supervision were solely in the hands of the trust. The town consequently occupies a unique position, not only in that the cost of medical inspection is paid partly by the ratepayers and partly by a purely private body, but it is the only town with only 4,000 children that can afford the luxury of two whole-time medical officers. To the assistant (a lady doctor) is assigned the extra duty of acting as demonstrator to the lady students at the Dunfermline Hygiene and Physical Training College.

Method of Examination.

An annual physical examination of every child is the rule. The weight, height, and chest measurement are recorded; hearing and vision are tested, and if the latter is defective a preliminary retinoscopy is made prior to referring the case to a specialist. The rule adopted in most towns is being followed here, in that unless there is a palpable defect no ocular examination is made until just prior to transference into the senior school, or until the pupil is about eight years of age. Parents are notified of any ocular or visual defect as follows:

Notification to Parent of any Defect.

MEDICAL INSPECTION DEPARTMENT,
DUNFERMLINE,
....., 19...

DEAR,

I have examined your, and find he has

I would suggest that you ask your medical attendant as to what he would advise should be done to the child. Enclosed is a letter, which I shall be obliged if you will kindly hand to your doctor.

Yours faithfully,

Although the examination is now compulsory, there is no power to enforce treatment; consequently, a large number still remain in the same condition, with the defects unremedied.

Special Cards retained by Parents.

Before these examinations cards similar to those used by the Fife County Council are sent for the parents to fill in. The latter part of this card, however, containing height, weight, and chest measurement, is retained and filed in the office, and a duplicate sent to the parents. This thoughtful action of the medical officer, Dr. Bridge, in sending a notification of this kind is much appreciated by the people, and has done a great deal to break down a previous prejudice on their part.

Private and Confidential Record for Teachers.

Further, a private and confidential record is kept, in triplicate, of any physical or mental defects noticed in the children examined. One is retained by the medical officer, another by the head-teacher, and the third by the assistant in whose class the child is placed. By this notification the assistant is aided in using his own discretion in the conduct of his class—*i.e.*, the child with uncorrected vision and the deaf being put well forward, and special attention given to those who require it.

Special Physical Examination.

Besides the annual a special examination is made:

1. When the children first come to school.
2. After being in the school a year. This is done to corroborate the first and is not as rigorous.
3. When a child passes into the senior school.
4. In the middle of school life.
5. Just before leaving.

If parents are too poor to pay for medical attendance, children are sent to the local hospital, where, unfortunately, no provision is made for the treatment of minor ailments.

Appointment of Nurse.

Recently, however, a nurse has been appointed to deal with these cases under the supervision of the school medical officer. Her other duties consist in attending excluded cases of tuberculosis and infectious disease, giving instructions as to their general care.

Tuberculosis.

Although only four cases of tuberculosis are being attended at present, the medical officer is of opinion that, there being no provision made for bacteriological examination, it is probable that there are others in the earlier stages undetected until symptoms become prominent. Isolation and sanatorium treatment are a dead-letter, infected children being simply recommended to be sent to the country.

Other Infectious Diseases.

Similar precautions as in other towns are adopted with regard to exclusion of cases of infectious disease. Diphtheria, scarlatina, measles, whooping-cough, ringworm, scabies, prurigo, impetigo, etc., are all excluded.

Pediculosis.

Much difficulty is met with in dealing with the spread of pediculosis, and little wonder, seeing that the School Board regulations on this subject exclude only those who harbour live pediculi, no provision being made for children with nits alone, and they are allowed to intermingle freely with their comrades. No printed instructions are issued, and the nurse who visits these cases at their homes simply advises the parents, but does not undertake treatment.

Teeth.

Beyond simply recommending the use of a tooth-brush, diseases of the teeth are entirely ignored.

Treatment—Establishment of Dispensary.

Should cases of illness arise, the patient is referred to the family physician, but no effort is made to see that treatment is carried out. To effectively cope with this difficulty, Dr. Bridge has persuaded the Carnegie Trust, who are willing to finance the proposal, to meet the medical men of the town with a view to establishing a free out-patients' dispensary. The local practitioners are unanimous as to its advisability, and recognize that it will not be prejudicial to their practices. Power is given under the Scottish Act to prosecute the parents of children who remain untreated. This provision has naturally had to remain in abeyance, but the establishment of a free dispensary will help to remedy the neglect.

Carnegie Institute.

In the Carnegie Institute is a splendid swimming-bath, to which free access can be had by all pupils throughout the summer, and free

lessons in swimming be obtained. In an up-to-date gymnasium physical development is catered for by a special instructor, who is notified by the school medical inspector of those who require careful handling, to insure that no child suffering from any serious ailment shall be permitted to undertake exercises which might be constitutionally detrimental. There are also classes for correcting physical deformities, and a training college for the instruction of those desirous of earning their livelihood as teachers of physical culture has recently been established. This is being taken full advantage of, and the maximum number of pupils enrolled.

Summary.

The lay population of Dunfermline are beginning to see the advantages which accrue from systematic medical inspection. Prejudice is gradually vanishing, as they now realize that it is only done to benefit their children and make them physically stronger. Provision has not yet been made for dealing with the mentally or physically defective children, but Dr. Bridge has been urging upon the Trust the necessity for establishing either a special school or holding special classes in the existing schools, so that they may receive the necessary attention.

CHAPTER XII

MEDICAL INSPECTION IN AMERICA

New York Divisions.

THE city of New York, which is divided into five boroughs, is under the control of a lady, Dr. Josephine Baker, who holds the position of chief medical officer for the Education Department. Each borough has a departmental head. In Manhattan Dr. Cronin is chief medical officer, and is a very enthusiastic medical inspection advocate.

History of System of Medical Inspection.

The system was started in New York in 1897 (three years after being established in Boston) by the appointment of 150 medical inspectors and a number of supervisors at a salary of $30 (£6) a month—morning inspection only required. This was carried on for five years, when, in September, 1902, the system was elaborated to include not only morning inspection, which meant the examination of children referred by the teachers, but also routine weekly inspection of children in the classroom and visiting absentees at their homes. The salary of inspectors was increased to 100 dollars (£20) a month, and each supervisor who has under him ten to twelve inspectors had his salary raised to 124 dollars.

On December 1, 1902, a corps of nurses was appointed, one for each doctor, and working in conjunction with them.

On December 16, 1902, a hospital and dispensary were opened for the exclusive treatment of trachoma, under which term are included all cases of infective granular conjunctivitis.

Objects of New York Scheme.

On March 27, 1905, the system of a complete physical examination of each school-child was initiated. The whole scheme is now thoroughly organized, with the following objects in view:

1. Repeated systematic inspection and examination of school-children, to determine the presence of infectious or contagious disease.

2. Exclusion from school attendance of all children with acute contagious disease.

3. Subsequent control of the case, with isolation of the patient and disinfection of the living apartments, after termination of the illness.

4. Control and treatment of minor contagious affections, permitting a child to remain at school.

5. Information on unreported cases of contagious disease occurring in children at their homes.

6. Exclusion from school of those families where contagious disease exists.

7. Complete physical examination of each school-child for the purposes of determining the existence of physical defects, and seeing that such are remedied.

Schools under Medical Officers' Supervision.

The schools which are under control of the medical inspectors are—all State schools, all denominational and parochial schools, American female guardian, Children's Aid Society, and Kindergarten. Every medical officer has one school, if large enough, or a group of schools, to visit and attend to generally. His duties are as follows:

1. Morning Inspection.

At each visit to the school he must sign his name in the time-book, giving the exact time of his arrival and departure. He must visit each school before ten o'clock every morning, unless otherwise advised, and examine in a room set apart for the purpose—

(*a*) All children suspected by the teacher as suffering from contagious disease.

(*b*) All children who have been absent from school without definite cause.

(*c*) All children returning after previous exclusion.

(*d*) All children suspected by the teacher as being physically defective.

(*e*) Any child reported by the nurse as suspicious.

Treatment.

Every case must be referred primarily to the family physician for treatment, as no medical officer is allowed even to suggest it. If there is no family physician, or the parents refuse to obtain medical attendance, the case is handed over to the nurse, whose duty it is to see that the child is treated, either privately or otherwise. No child must be neglected. The medical inspector is further instructed to co-operate as far as possible with the principals and teachers, so as to insure a harmony and unison necessary for the proper conduct of the work.

2. Routine Inspection.

At the beginning of each term the medical inspector makes a routine inspection of every child in the school. The eyelids, throat, face, hair, and hands are examined as the children pass in single file before the doctor. Each boy pulls down his eyelids and opens his mouth, shows his hands, and each girl, in addition, lifts up her back hair. All cases of disease thus discovered are recorded on index cards, with the proper data in appropriate columns. Code numbers to denominate the particular ailment are always used, so that children may not know the meaning; and if a child has a verminous head, he or she may not be specially referred to (four different numbers being used for this purpose). If cases require further examination, they are sent to the medical inspector's room to be overhauled. In non-infectious cases all children ordered under treatment are required to report themselves at stated periods, when the fact is recorded on an

index card; and as long as treatment is continued, the child is allowed to remain at school, but if untreated, he is excluded at once. The doctor must report the number of children examined daily, with names, addresses, and, if excluded, the cause, to the central office. Duplicates of these records are kept on the school file.

3. Physical Examination.

1. After the above duties are completed, the principal instructs the children to report to the medical inspector for thorough physical examination in the following order:

Cases examined.

(*a*) Those entering school for the first time, but vision is not tested unless marked errors are discovered until eight years of age.

(*b*) In the regular course, beginning with those in the lowest grades and proceeding to the higher grades.

(*c*) Classes of the same grade are examined in regular order in each school of the group.

Condition for which Children are examined.

2. Each child must be thoroughly examined for the following conditions:

(*a*) Defective vision.
(*b*) Defective hearing.
(*c*) Defective nasal breathing.
(*d*) Enlarged tonsils.
(*e*) Tuberculous lymphatic glands.
(*f*) Pulmonary disease.
(*g*) Cardiac disease.
(*h*) Chorea.
(*i*) Orthopedic defects.
(*j*) Malnutrition.
(*k*) Defective teeth.
(*l*) Defective palate.

A complete record of each physical examination must be made on a form coloured blue and filed by the head-teacher, a duplicate

copy, coloured white, being kept in the central office. The conditions, if defective, are indicated by a cross opposite each particular affection or disease.

Defective Vision.

Each child is examined with Snellen's test-cards at a distance of 20 feet, and also the Jaeger test for near vision. Should the eyesight be found to be defective, the following notice is sent through the child to the parent or guardian :



FIG. 17.—A CASE OF MYOPIA: BEFORE GLASSES HAD BEEN FITTED.



FIG. 18.—A CASE OF MYOPIA: AFTER GLASSES HAD BEEN FITTED.

This notice does not exclude the child from school.

DEPARTMENT OF HEALTH,
THE CITY OF NEW YORK,
....., 19...

The physical examination of attending public school reveals the following defects :

.....

It is recommended that the child be taken to the family physician for treatment.

Take this card with you to the physician.

Issued by order of the Board of Health.

Parents' Request to have Children examined.

Should the parents be too poor to employ a physician, they are requested to fill in the following notice to the Department:



FIG. 19.—MORNING INSPECTION.

DEPARTMENT OF HEALTH,
THE CITY OF NEW YORK,
....., 19...

I, parent of, living at, herewith request that the nurse of the Department of Health take my child to some institution for the proper treatment of its physical defects.

(*Signed*)
Address

If it be found that children suffering from physical defects still remain untreated, the medical inspector is instructed to call on the parents at their homes and persuade them of the necessity for treatment. (These forms apply to all cases of physical defects, but

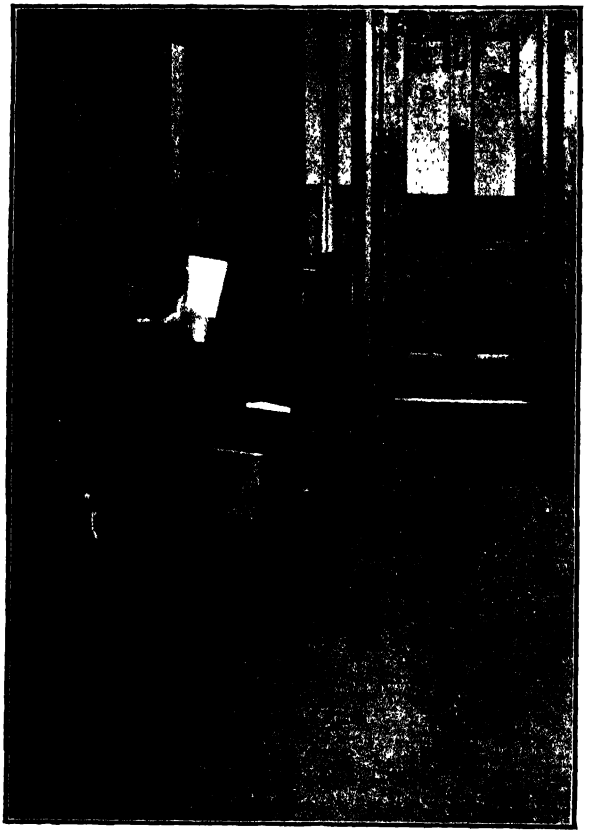


FIG. 20.—METHOD OF TESTING VISION: CHILD READING TEST-TYPES AT 20 FEET DISTANCE, USING ONE EYE AT A TIME.

special instructions are given regarding teeth, which will be referred to later on.)

Absentee Visits.

Should any child be absent from school for three or more days without an assigned or definite cause, a medical inspector must visit

him or her at home, and if the disease is contagious a report is forwarded to the Board of Health.



FIG. 21.—CASES OF ADENOIDS AND DEFECTIVE VISION.

Minor Ailments.

In the case of routine inspection, should there be found any minor ailment, such as ringworm or pediculosis, a special notice is sent to the parent or guardian, as follows:

DEPARTMENT OF EDUCATION.

To the parents or guardians of, public school No.

Physical examination of your child by an examiner of the Department

of Health shows that he needs treatment. Please call at school at . o'clock to confer with the school nurse.

Principal.

Pediculosis.

Children with verminous heads are assembled in groups and instructed as to methods of home treatment, and each is given a copy of the official circular:

INSTRUCTIONS TO PARENTS ON THE CARE OF THE CHILDREN'S HAIR AND SCALP.

Children affected with vermin of the head are excluded from school. The following directions will cure the condition:

Mix ½ pint of sweet oil and ½ pint of kerosene oil. Shake the mixture well and saturate the hair with it. Then wrap the head in a large bath-towel, so that the head is entirely covered. It must remain covered for six to eight hours.

(Tincture of larkspur may be used instead of oil mixture. The directions for use are the same.)

After removing the towel, the head should be shampooed as follows: To 2 quarts of warm water add 1 teaspoonful of sodium carbonate. Wet the hair with this solution, and then apply Castile soap, and rub the head thoroughly about ten minutes. Wash the soap out of the hair with repeated washing of clear warm water. Dry the hair thoroughly.

Nits.—If the head is shampooed regularly each week as above described, it will cure and prevent the condition of "nits."

Issued by order of the Board of Health.

All children with vermin must report to the nurse at least once a week. If they have live pediculi, and in the opinion of the medical officer are a menace to other children, they are excluded from school. Mild cases of ringworm, scabies, and impetigo, for which poor people would not employ a physician, are attended to by the nurse, who also instructs the parents as to subsequent treatment.

Ringworm.

Children suffering from ringworm are not excluded from school in New York. But Dr. Sobel, one of the supervisors, who has been working for the Department for twelve years, and has seen thousands of cases, does not agree with the action of the health authorities in this matter. His opinion is that every case of ringworm ought to

be excluded, and expresses himself thus: "How can you eradicate ringworm when you have a common repository for hats and caps, and children continually rubbing against one another? The only way to deal with it is to absolutely debar infected children from attending school. Three, or even six, months' education is nothing compared to a child's health. Nothing short of exclusion is of any value."

Infectious Diseases.

All reported infectious cases, such as smallpox, diphtheria, scarlet fever, measles, chicken-pox, whooping-cough, mumps, or pulmonary tuberculosis, are excluded from school, and the parents notified in the following manner:

DEPARTMENT OF HEALTH,
BOROUGH OF MANHATTAN,
NEW YORK,
....., 19...

Name *Age*.....
Address is ordered to discontinue attendance at School No., located at
Reason

School Inspector.

Notification to Parents of Contagious Diseases.

On the other side of the card is a notice:

NOTICE TO PARENTS.

The disease mentioned on the other side of the card is a contagious affection, and liable to be transmitted to other children. The child should receive prompt attention by any physician (or at any dispensary), and should return to school, 19..., for re-examination by the medical inspector for the Department of Health. If found free from contagion at this time, he may resume attendance at school.

Diphtheria.

Material for cultures must be taken in all cases of sore throat to determine the presence or otherwise of bacilli of diphtheria. The result of the examination is recorded in duplicate on school culture blanks by the bacteriologist at the nearest culture station in the

borough. Culture tubes are distributed at certain shops (druggists', as a rule), which are situated in convenient places all over New York, and any medical man can obtain them, have examination made, and be notified of the result free of cost. In years gone by diphtheria was very prevalent in New York City, but it is stated that the care being exercised and precautions taken have reduced the umber of cases considerably.

Tuberculosis.

New York has for a number of years been a hot-bed of tuberculosis, probably due to the overcrowded condition under which the populace live. Very drastic steps have been recommended as a means of controlling its spread. Some go so far as to advise total isolation of all cases, but this is condemned by the majority, as doing so is not conducive to the bodily health of the patient. Then, again, it is often necessary to sacrifice the few in order to protect the majority. Placards are prominent in every public place: "Spitting is illegal and punishable by law."

Precautions to prevent Spread of Tuberculosis.

Great precautions are taken to prevent its spread in the schools. If a child is not as well nourished as it should be, shows any indications of weakness, has the slightest cough, or has any symptom the least bit suspicious, the sputum is taken and sent to the Bacteriological Department for examination. If the child is found to be infected he is isolated as far as it is possible to do so. The medical inspector must visit the home and warn the parents of the danger to which the rest of the family are liable. He gives them instructions as to sputum, open windows, and all precautions necessary to insure the greatest safety.

Question of Open-Air Schools.

Cases of incipient phthisis are innumerable, and the Department are considering the advisability of establishing open-air schools to give the children affected every possible chance. Recently two

river-steamers were purchased for this purpose, and are being converted into schools, which will be located in the middle of the Hudson River. Sputum bottles are procurable in the same way as diphtheria tubes, examination and report being made free of cost.

Teeth.

This is another item looked upon by the Board of Health as of the greatest importance, not only after the permanent teeth begin to appear, but at an earlier stage, as neglect of the first teeth is a frequent cause of decay in the permanent ones. Instructions are given as to the proper care of the mouth and teeth, as follows:

INSTRUCTIONS TO PARENTS REGARDING THE CARE OF THE MOUTH AND TEETH.

The physical examination of school-children shows that in many instances the teeth are in a decayed and unhealthy condition.

Decayed teeth cause an unclean mouth. Toothache and disease of the gums may result.

Neglect of the first teeth is a frequent cause of decay of the second teeth.

If a child has decayed teeth, it cannot properly chew its food. Improperly chewed food and an unclean mouth cause bad digestion, and consequently poor general health.

If a child is not in good health, it cannot keep up with its studies in school. It is more likely to contract any contagious disease, and it has not the proper chance to grow into a robust, healthy adult.

IF THE CHILD'S TEETH ARE DECAYED, IT SHOULD BE TAKEN TO A DENTIST AT ONCE.

The teeth should be brushed after each meal, using a tooth-brush and tooth-powder.

The following tooth-powder is recommended:

2 ounces powdered precipitated chalk.
½ ounce powdered Castile soap.
1 drachm of powdered orris root.
Thoroughly mix.

This prescription can be filled by any druggist at a cost not to exceed 15 cents.

The child should take the tooth-brush and powder to the school, and receive instructions from the nurse as to their proper use.

Issued by order of the Board of Health.

Instruction in School of Children with Defective Teeth.

Actual mouth- or tooth-brush drill is daily practised in the various schools. The nurses call the children of a class together, and they hold up their hands to their mouths and perform the movements necessary for the proper cleansing of the teeth. During routine inspection teeth are always examined, and, if unsatisfactory, a notice is sent to the parent similar to that for defective eyes, recommending the child to be taken to a dentist if necessary. It is the duty of the school nurse to see that every child has, and uses, a tooth-brush. In order to encourage the children, some little time ago one of the prominent daily papers published an intimation offering to supply every child who produced a signed coupon with either a tooth-brush or a box of powder. Thousands of children took this opportunity, and in the opinion of the authorities a great deal of good was effected, and a big fillip given to the care of the teeth. New York has evidently come to realize that the old sayings, "An army marches on its teeth," and "Many a man digs his grave with his teeth," are true not only literally, but in reality.

Vaccination.

This is compulsory under Section 44 By-laws of 1902 of the Board of Education of the City of New York:

(1) No pupil shall be allowed to attend any school, nor shall any teacher be employed in the same, unless such pupil or teacher has been vaccinated.
(2) Every principal of a school shall require a certificate of a physician in good standing as evidence of such vaccination, etc.

A notice to the following effect is sent to the parents of all unvaccinated children:

> If your child requires vaccination to protect it from smallpox it will be sent home for your consent, and will be vaccinated on the following day. Bovine vaccine virus only, and a new needle and toothpick for each vaccination, are used. Your child will not be allowed to attend school unless you comply with the by-law.



As smallpox is constantly present in the city of New York, such drastic measures are quite necessary. The child having been vaccinated, a notice is sent to the parents, headed:

DIRECTIONS TO BE OBSERVED AFTER VACCINATION.

Have shirt-sleeve loose and lined with clean white cotton or linen, basted into the armhole, and long enough to reach below the elbow.

Do not let a woollen sleeve touch the arm.

Do not bind it, as anything tight causes irritation and prevents the vaccination from becoming perfect.

NEVER USE A VACCINATION SHIELD.

If the arm becomes much inflamed after the tenth day, do not poultice it, but keep it covered with a cloth wet with hot water.

Babies should be vaccinated before they are five months of age if possible, so that they may get entirely over the effects before teething begins. It makes no difference at what time of the year vaccination is performed. There is usually more smallpox in winter than at any other time of the year, and parents should not wait until spring to have their children vaccinated.

Vaccination will always prevent smallpox if performed in time.

If any bad effects appear to follow vaccination notify the Department of Health, and a physician will be sent to attend the case free of charge.

AT THE END OF TEN DAYS RETURN TO THE OFFICE WHERE THE VACCINATION WAS PERFORMED, AND IF THE VACCINATION IS FOUND SUCCESSFUL, AN OFFICIAL CERTIFICATE WILL BE GIVEN.

By order of the Board of Health.

The Care of Infants.

The care which is being exercised by the city of New York to protect its infant population and reduce the mortality forms a marked contrast as compared with many other large cities. Mr. Roosevelt, when President of the United States, told his people that if America were desirous of maintaining her position among the nations of the world, she must keep her cradle full. Not only is this result being achieved, but every care is taken to protect the infant, whether he be foundling or not. One of the important duties of a school nurse is to make inquiries as soon as possible after the birth of a child, to see that the mother is given careful instructions in the care of the infant. She carries with her placards to be hung up on the wall: "HOW TO KEEP THE BABY WELL."

On this are instructions as to food, clothing, bathing, and fresh air. The directions are simple and instructive. At the bottom is a notice in large type: "If the baby VOMITS or has DIARRHŒA, STOP ALL FEEDING, and give cool boiled water. Send for your DOCTOR at once, or notify the DEPARTMENT OF HEALTH."

Dr. Sobel asserts that since the nurses have been appointed so much success has attended their efforts that infant mortality has been reduced by one-half during the summer of 1909 from diarrhœal diseases alone. The doctors have had more work, but thousands of lives have been saved, and he says that the progress has been so great that "death from infantile diarrhœa will soon be a thing of the past." This is an exceedingly bold statement to make. Every mother is given printed instructions on "SUMMER CARE OF SICK BABIES." This begins as follows:

"3,929 BABIES DIED in New York City last summer from diarrhœal diseases. Most of them died because they were given improper food. They could have been saved if they had been taken to the doctor at the beginning of their illness, and had been properly fed."

Instructions are given for breast-fed and bottle-fed babies. All over New York are repositories for the distribution of milk, which is prepared (either sterilized or pasteurized) in strengths suitable for infants from three days old up to twelve months. At the dispensaries babies are carefully watched and weighed weekly, and if an infant shows no progress, special attention is given to it by both doctor and nurse.

General Summary of New York.

From the foregoing it will be recognized that New York is well in the van of both educational and medical science. The physicians and teachers work most harmoniously together, and everything in their power is done for the welfare of the children. A school assembly gives an instructive lesson in the discipline which prevails in schools, particularly those attended by children of foreign nationalities. The assembly hall on each floor is subdivided for tuition purposes into classrooms by means of sliding partitions, but before school-work commences these partitions are slid back, forming

one large hall. The proceedings of the day commence with the National Anthem and the song of America. While this is going on the Stars and Stripes are duly installed in front of the head-teacher's table. The head-masters are quite satisfied that all foreigners are most anxious to become American citizens. The children are well-behaved, tractable, and obedient, and there is a great lack of truancy among them, and many of the teachers prefer them as pupils to the native-born Americans. It is surprising to notice the healthy appearance of most of the children, situated as they are in these crowded centres of population, which it is almost impossible to depict. Suffice it to say that each block in New York has a frontage of 200 feet, and generally a depth of from 400 to 600 feet. It is not at all unusual to find four schools, averaging 2,000 children in each, on one of these blocks. Comment is needless.

THE NURSING SYSTEM IN NEW YORK.

Staff.

The nursing staff of New York consists of 141 full-time nurses, who receive each a salary of seventy-five dollars a month. They must devote all their time to the work, and are under the control of a supervising nurse, who has entire charge of all the nurses. Her duties are as follows:

Duties of Supervising Nurse.

1. She assigns the nurses to duty at certain schools.
2. She sees that necessary supplies are furnished.
3. She instructs the nurses in their duties and inspects their work.
4. She receives nurses' reports of work performed.
5. She keeps a record of all examinations, treatments, and diseases treated by each nurse in each school.

Duties of School Nurse.

The duties of a school nurse are of a multifarious character. She is assigned a number of schools to look after, similar in number to those allotted to the medical inspector. She must visit each school daily, following a time schedule arranged for her by the supervising

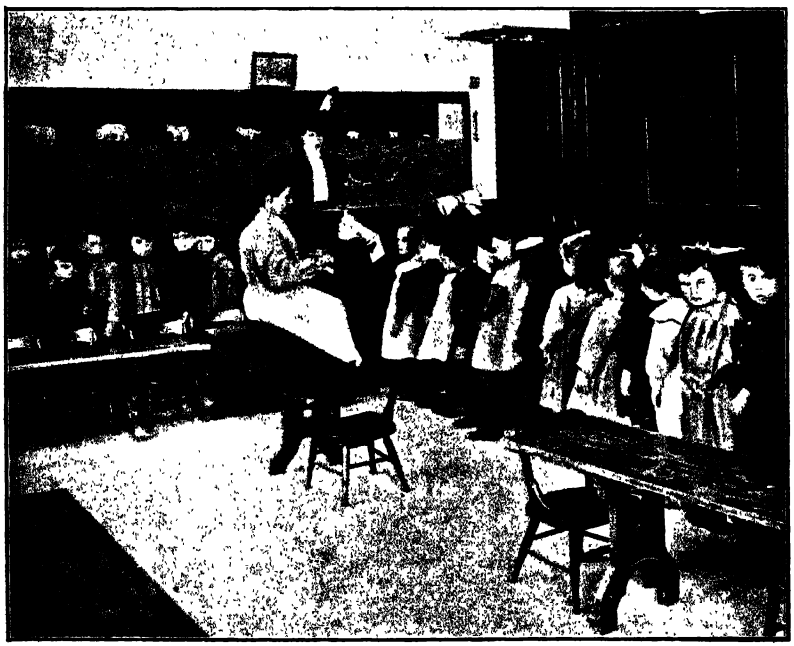


FIG. 22.—ROUTINE INSPECTION BY LADY DOCTOR AND NURSE.

school nurse. While on duty at school the nurse must wear a clean white apron, the form of which has been approved by the Superintendent of Nurses.

1. Morning Instructions and Treatments.

In a room assigned for that purpose the nurse must receive each morning all children referred to her by the inspector. A slip bearing

the code number must in each instance be accepted by the nurse for the diagnosis of the disease made by the physician, and appropriate instructions or treatment be given. Practically only the following are treated at the school:

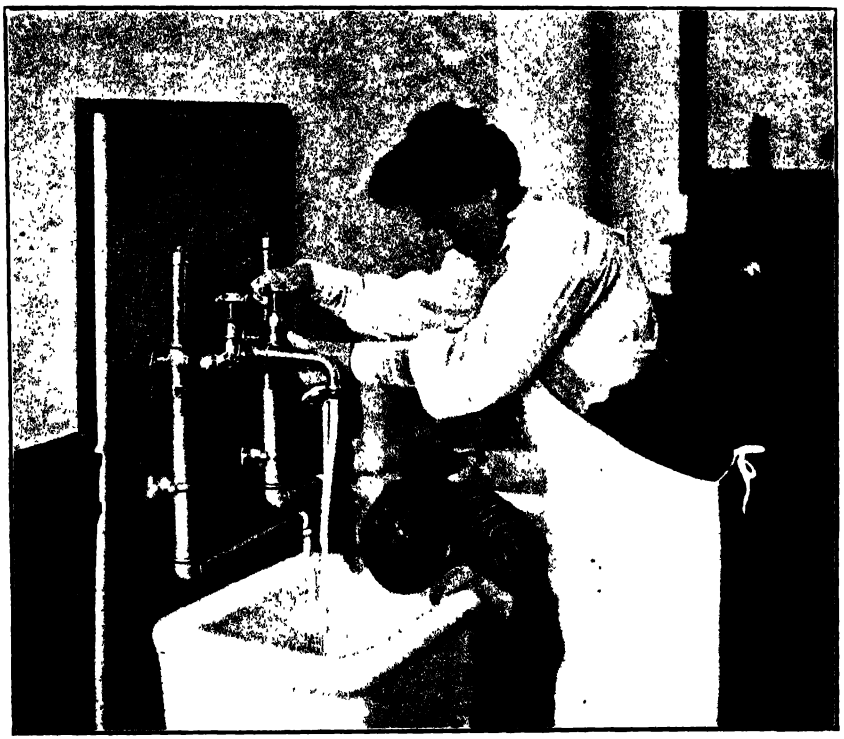


FIG. 23.—A CASE OF FAVUS: NURSE GIVING TREATMENT AT SCHOOL.

Pediculosis (Verminous Children).

Children affected are to be assembled in groups, and instructed as to methods of home treatment. Each child must be given a copy of the official circular entitled, "Instruction to Parents on the Care of Children's Hair and Scalp." They are instructed to report to the nurse at least once each week, and at such times are examined for evidence of treatment. In instances of persistent neglect the child is referred to the inspector.

Trachoma.

This must not be treated by the nurse. Children, if afflicted, are instructed as to the necessity of treatment. The child is then referred to the family physician; but if the parents are too poor to employ one, the child is sent to one of the eye hospitals, a request from the parents being made according to the official form. When evidence of treatment is shown this is recorded, with date of observation on the class index-card, and the case seen at least once each week. If treatment be not provided, the nurse must visit the parents



FIG. 24.—ADENOIDS: BEFORE OPERATION.



FIG. 25.—ADENOIDS: AFTER OPERATION.

at their home and explain the need of medical attention. If the neglect is persistent, the child is referred to the inspector. No child can on any account remain untreated.

Methods of treatment for minor diseases are explained, and instructions given in cases where parents decline to employ a general practitioner.

Instructions for Physical Defects.

The nurse obtains each day from the inspector the physical record of every case examined on that day. She fills out for each case a



FIG. 26.—CHILDREN WHO HAD BEEN OPERATED UPON FOR ADENOIDS OR ENLARGED TONSILS, IN FRONT OF THEIR SCHOOL (P.S. NO. 110) ON THE LOWER EAST SIDE OF MANHATTAN.

notice to the parents on an official blank, asking them to report to the nurse at the school. This notice is first forwarded to the principal for signature, who sees that it is received by the parents, whom the nurse instructs at the school regarding the necessity for treatment.

Defective Teeth.

Instructions in the hygiene of the mouth in all instances where defective teeth are reported, and a copy of the circular entitled



FIG. 27.—CASES OF ADENOIDS BEFORE OPERATION.

"Instructions to Parents regarding the Care of the Mouth and Teeth," are given to the parent or child in each case.

When the first or temporary teeth are found to be defective, evidence that mouth-hygiene is being practised may be accepted as terminating the care of the case. Children with defective permanent teeth are instructed in mouth hygiene and the necessity for proper dental treatment. These must be considered by the nurse as physical defects, and the children visited at their homes.

Emergency Cases.

In the absence of the inspector the nurse may treat any case requiring immediate attention, referring all cases to the parents for medical treatment. Any suspected case of contagious disease should be recommended for exclusion to the principal and reported to the medical inspector.

The nurse works in conjunction with the principal of the school, and must give him a list of all children under her care. She is not allowed to exclude a child or act on her own initiative without the consent of the principal.



FIG. 28.—THREE OF THE CASES AFTER OPERATION.

2. Routine Inspection.

The nurse makes a routine inspection of the children in the class-rooms; the eyelids, skin, throat, and hair are examined. She must not touch the child. The latter pulls down the eyelids, opens the mouth, etc., similar to the method adopted in medical inspection. Wooden tongue-depressors are used.

All cases of suspected contagious disease are recorded on the

index-cards, with data in appropriate form. The index-cards are kept in an accessible place in each school, code numbers being used to indicate the disease. All cases of suspected contagious eye or skin disease must be referred to the medical inspector. Cases of suspected diphtheria, scarlatina, measles, chicken-pox, whooping-cough, and mumps are, in the absence of the medical inspector,



FIG. 29.—THE NURSE HAS TO BE SATISFIED THAT BOYS HAVE CLEAN HANDS.

referred to the principal of the school for exclusion. In each case a card with name, address, and reason for exclusion is given to the inspector.

Home Visits.

If after three days the parents of children in whom physical defects have been diagnosed do not visit the nurse at school, she must call on the parents at the home, explain the conditions, and urge the necessity for treatment. The nurse makes herself familiar with

all local facilities for obtaining treatment, and gives general instructions as to food, ventilation, cleanliness, and hygiene. The nurse carries with her an order book, so that any patient requiring ice can have it on applying at any of the ice depots in New York. The order card is as follows:



FIG. 30.—NURSE'S TREATMENT AND INSTRUCTION HOUR AT SCHOOL.

NEW YORK,
....., 19...

Book No......

The Bearer

Address

is entitled to receive 10 pounds of ice for each of the attached coupons when this book is presented to the weigh-master of any of the ice depots named at the back of the book, or to the driver of any retail ice waggon of the American Ice Company, when countersigned by an authorized agent of the Department of Health.

By

Agent.

Only one coupon will be honoured each weekday and two on Saturdays.

General Instructions to Nurse.

Revisits must be made in each instance until evidence of treatment is shown or parents refuse treatment. No case may be terminated on account of inability to obtain treatment until it has been referred to the medical inspector.

If the parent is unable to take the child to a dispensary, the nurse



FIG. 31.—GROUP OF CHILDREN TALKING WITH THE NURSE IN FRONT OF THE SCHOOL.

may do so, but must previously obtain in writing a request to that effect.

No visits shall be made by the nurse to contagious cases.

A report of the treatment of each defect, whether medical or surgical, is made on a physical record form. Evidence that a child is under medical care is sufficient for the nurse to terminate her attendance.

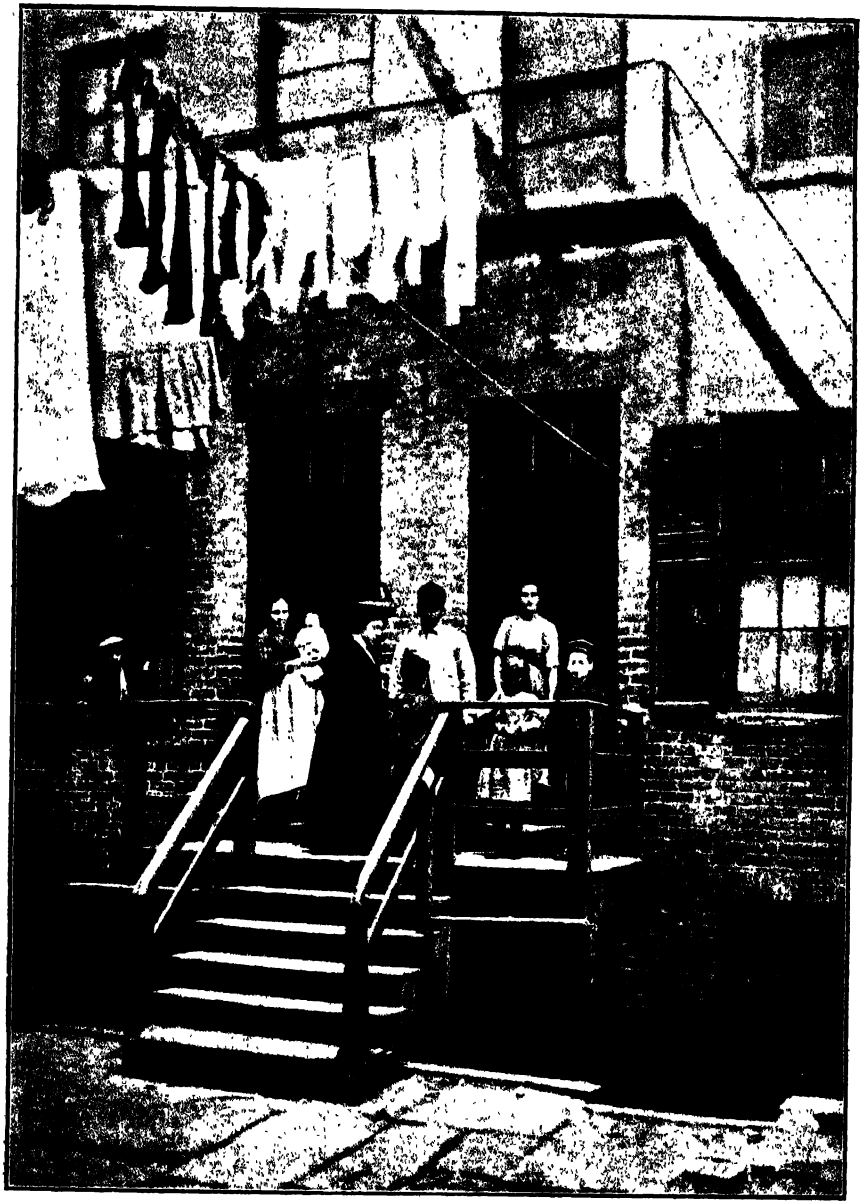


FIG. 32.—NURSE VISITING A FAMILY AT THE BACK OF A TENEMENT AND INSTRUCTING PARENTS AND CHILDREN IN THE NEED OF TREATMENT FOR PHYSICAL DEFECTS.

The nurse must report regularly to the supervising nurse.

A daily report of work performed is mailed to the chief of the division.

The duties of the nurses, so far as the schools are concerned, are by no means onerous. In addition, however, they have been assigned the extra duty of taking care of infants. They must make it their business to see that every child born in their district is attended to, and instructions as to its proper care given to the mother. The nurse leaves in each home the placard "How to keep the Baby Well," with directions as to the "Summer Care of Sick Babies." If the mother is unable, on account of physical defect or otherwise, to suckle her baby, the nurse sees that suitable artificial food is provided, and directions as to general hygiene, clothing, etc., are not omitted.

Every reasonable care is taken of the rising generation, be they alien or American born. No expense is spared to prevent the population being depleted through neglect.

CHAPTER XIII

BOSTON

History of System.

DR. SAMUEL H. DURGIN, Chief Medical Officer of the City of Boston, is regarded as the father of the system of medical inspection of school-children throughout America. It is asserted that he occupies this proud position, not only in his native country, but throughout the world. This statement is certainly open to question. Medical inspection of schools, both public and parochial (denominational), was begun in Boston in 1894, and was only secured by Dr. Durgin after four years' effort. In that year, on account of an outbreak of diphtheria, he had occasion to bring the matter prominently before the public by pointing out the advantages which would be gained and the comfort which would be exercised over the spread of this dangerous malady were a medical officer appointed to supervise the children in the various schools for the purpose of excluding all infectious cases.

Appointment of School Physicians.

For some considerable time the appointment of medical inspectors was not compulsory, but in 1906 an Act was passed by Parliament termed:

"AN ACT RELATIVE TO THE APPOINTMENT OF SCHOOL PHYSICIANS.

"Section 1. The school committee of every city and town in the Commonwealth shall appoint one or more school physicians, shall assign one to each public school within each city or town, and shall provide them with all proper facilities for the performance of their duties, as prescribed by this Act; provided, however, that in cities

wherein the Board of Health is already maintaining, or shall hereafter maintain substantially, such medical inspection as this Act requires, the Board of Health shall appoint and assign such school physician."

The duties of a school physician are included in this Act, which took effect from the first day of September, 1906.

Duties of Medical Inspector.

All school medical officers are paid a salary of 200 dollars a year, "an amount totally inadequate and not nearly sufficient to insure the proper and thorough carrying out of the duties," according to Dr. Durgin. The difficulty seems to be of a political nature, as the control of medical inspection is entirely in the hands of a Board, appointed by whatever political party is in power, with the exception of Dr. Durgin who is *ex-officio* chairman. The majority of the Board have for a number of years been totally opposed to any further expenditure, no matter how earnestly Dr. Durgin may plead his cause nor how necessary the demands. The consequence is that the type of physician occupying the position of medical inspector in the schools does not as a rule appear to be in the same class with those occupying similar positions under the London County Council.

Each medical inspector has from four to six school buildings, with from 1,500 to 2,000 pupils in each, under his supervision. He visits each school as soon as convenient after nine o'clock in the morning of each school day, and there receives from the teachers a list of the pupils who apparently require medical attention. The pupil brings with him to the doctor's room a slip of paper with his name and address. The medical officer makes a hasty, slipshod style of examination, writes down his diagnosis, along with a recommendation, either—

(1) That the child be returned to school; or,

(2) That he be sent home, with instructions to his parents to call in the family physician.

The medical inspector exercises no authority whatsoever unless the case happens to be one of an infectious nature, when he is

empowered to return the child to his home at once, and he reports the fact to the Board of Health. He is never allowed to prescribe or in any way interfere with the prerogatives of the family physician. "I lay great stress upon this point," said Dr. Durgin, "and any complaint received on this ground is thoroughly investigated and rigorously dealt with. Our inspectors must not even hint at treatment or offer the smallest suggestion." In the examination of a child, if a tongue-depressor is required, a piece of deal, similar to that used in other countries, is supplied by the Board of Health for this purpose, and destroyed after being once used.

Infectious Diseases.

Every medical officer receives a daily bulletin of all cases of infectious disease in his district. He must visit each case, to see that isolation satisfies the requirements of the Board of Health, to whom he must report.

Examination of Eyes.

For two years Dr. Durgin has been urging upon the Board the importance of extending the system of inspection, by having the sight and hearing of all pupils tested once a year. He also desires that medical officers should be required to keep a reasonable watch over all cases of infection at the homes, and to examine all pupils returning to school after being ill from causes which have not been reported to the Board of Health. This, however, would entail an additional outlay, which the powers that be have so far declined to grant. Under the new law passed in 1906, a test once a year of the sight and hearing by the teachers was secured. Vision-testing is conducted in accordance with the rules of the State Board of Health and Education. Before the Act was passed the Board requisitioned the services of a number of specialists to give their advice, and drew up a series of rules to be observed by the teachers. The clause of the Act dealing with this particular point is as follows:

"Section 5. The school committee of every city and town shall cause every child in the public schools to be separately carefully

tested and examined once at least in every school year, to ascertain whether he is suffering from defective sight or hearing, or from any other disability or defect tending to prevent his receiving the full benefit of his school work or requiring a modification of the school work, in order to prevent injury to the child, but to secure the best educational results. The tests of sight and hearing shall be made by the teachers. The committee shall cause notice of any defect or disability requiring treatment to be sent to the parent or guardian of the child, and shall require a physical record of each child to be kept in such form as the State Board of Education shall prescribe."

Treatment of Cases of Defective Vision.

If a defect in vision is found, teachers give the parents written notice to consult the family physician. "But we go farther than that," says Dr. Durgin. "If a child is untreated, we send our nurses to the homes to instruct and advise the parents. There is often great difficulty in persuading the latter, who in many instances are too poor to employ a doctor. In these cases, after getting permission from the parents, the nurses will take defective children to a hospital or dispensary to receive treatment. Every effort is made to prevent any child, whether rich or poor, being neglected."

Appointment of Additional Medical Inspectors.

In 1906, when the Act was first passed, it was only possible to secure sufficient money for the appointment of fifty medical inspectors even at the wretched salary of £40 per annum. Recently, however, having found that fifty medical men could not possibly cope with the work, thirty more were appointed, so that Boston is now divided into eighty districts, with eighty inspectors. Under Section 3 of the Act the duties are the following:

"To examine (*a*) every child returning to school without a certificate from the family physician, or absent from unknown cause;

"(*b*) Every child suffering from infectious or contagious disease, unless he is at once excluded from school by the teacher;

"(*c*) Every child in ill-health."

INFECTIOUS DISEASES.

Diphtheria.

Boston has been, and still is, a hotbed of diphtheria, and great precautions have to be taken to prevent its spread. At forty or fifty convenient stations, usually chemists' shops, swabs are procurable by any physician, free of charge. These are forwarded by the chemist to the bacteriological laboratory for examination, the result of which is reported immediately to the family physician. If it is positive, the child is isolated at once, and all children in the house excluded from school. Before being readmitted a swab taken by the school medical officer, besides that taken by the family physician, must give a negative result. Owing to the prevalence of diphtheria, Dr. Durgin is instituting a system of swabbing the throats of all pupils attending school. He expects to pass through the laboratory from 1,000 to 1,200 cultures a day, and by this means bring diphtheria better under control. This system has been carried out hitherto only in schools or institutions where diphtheria was present, but the idea now is to swab all throats, irrespective of its presence or not.

Tuberculosis.

As in New York, so also in Boston, tuberculosis is very prevalent. When a case is reported a medical officer visits the home and gives instructions to the parents as to habits and general sanitary conditions. Great precautions are taken to prevent the spread of disease. Spitting in public places is punishable by law. Special hospitals and homes have been erected for the indigent. Schools also have been established for cases of incipient phthisis, so that the education should not be neglected. Under the Act any school medical officer can thoroughly examine a suspected case and take the sputum without the parents' permission, but they are generally referred to the family physician. Sputum bottles are procurable from the drug stores in the same way as diphtheria swabs. The Board of Health defrays the cost of distribution and mailage to the family physician.

Enteric fever, anthrax, and malaria are dealt with in precisely the same way at the bacteriological laboratory.

Teeth.

Up to the present the authorities have been unable to deal in a satisfactory manner with children having defective teeth beyond issuing a few general directions as to their care. The nurses endeavour to instruct the parents as to the necessity for cleansing the teeth and to warn them against neglect and the dangers accruing thereby.

Pediculosis.

As in other thickly-populated cities, Boston possesses a fair share of verminous children. "We try to do what we can to prevent a child being pointed out as dirty," says Dr. Durgin, "but we must at the same time control as far as possible the spread of vermin. This we do by sending a card marked 'Private' to the parent, with directions to be adopted for cleansing a child's head. If we find that no attention is paid to this notice, we send the nurse around to see that the directions are carried out."

Every school in Boston receives by mail every morning a list of all infectious diseases reported in the city. The head-teacher in each school has instructions to carefully peruse this list to insure that no child from an infected house is attending school. He also receives a list of houses which have been disinfected. Cases which are generally included are those of diphtheria, scarlet fever, enteric, chicken-pox, smallpox, pertussis, tuberculosis, and measles.

Vaccination.

As in New York, every child must be vaccinated. When he first attends school, he must either produce a medical certificate to this effect or he must show clearly vaccination marks on examination, the same instructions being given as were quoted under New York.

Washington School Equipment.

This was one of the schools visited, and is the largest and most modern in Boston, showing a roll-call of 2,400 children. It is one of the few schools in America fitted with bath-rooms, which, however, are by no means comparable with those used in German schools, and the weekly bath is not compulsory.

One feature which is exceedingly rare in schools throughout the world is the provision made by means of elevators for children in delicate health, or those who are certified by the physician to be unfit to climb three or four flights of stairs. There is also a play-ground on the roof. The classrooms are large, well ventilated, and clean; plenty of desk accommodation is allowed for each child. There is also a consulting-room for the doctor in the middle of the school. He is assisted in his work by a nurse, who devotes her whole time to the work.

Medical Inspection in School.

The medical inspection itself is of a very perfunctory character. A boy brings up a note with his name, address, and reason for consultation. This he must receive from the teacher before the doctor examines him. The child might be complaining of a cough. The doctor looks over him in a cursory sort of way, and passes him on to the family physician. No hint whatever is given as to treatment. The intention of the Board is to do everything in its power to prevent the position of the family physician being in any way usurped. If a child is known to be too poor, he or she is passed over to the nurse, whose duty is to see that every child receives medical attention, either by the family physician or at a hospital or dispensary. Should the school medical officer exclude a child, a record must be kept of the date and reason for exclusion. It is quite recognized by the principal medical officers in Boston that their system is totally inadequate to meet the requirements. "But," says Dr. Durgin, "we cannot get the money to carry out effectively the scheme I desire, but I think you will find that, on the material we possess, we have done as much as can possibly be expected."

CHAPTER XIV

AMERICAN IMPRESSIONS

School Inspection.

IF a visit were paid to a number of schools situated particularly in the East End of New York, it would be noticeable that the alien population predominates. This will be found to prevail all over the district below Twelfth Street between Broadway and East River. The schools are large, and the number of children in each varies between 1,500 and 5,000, according to the needs of the particular neighbourhood. At nine o'clock the school physician commences his work in a room which is known as the Medical Officer's Room. The nurse is present to assist in undressing children demanding attention. These are referred to the medical officer either by the head-teacher or nurse.

Physical Examination.

Having completed this part of his work, he commences physical examination, and seeing that he is supposed to have only about 4,500 children under his supervision, he is expected to pass every child through his hands by a thorough examination at least once a year. This, however, is by no means as thorough as that practised by London physicians. While passing through a number of schools not one of the children was undressed, and auscultation was more or less of a superficial character and done in rather a slipshod style. A large number at nearly every examination are new arrivals, and a good percentage unable to comprehend the language; yet the parents are not present, and consequently information regarding the personal history is difficult to obtain.

Importance of Vaccination.

One important point which is insisted upon is that every child must be vaccinated. There are no conscientious clauses in the Act to allow a loophole of escape on the ground of sentiment, misconception, or ignorance. All foreigners know the law, and must abide by its tenets. That the spread of smallpox is controlled by vaccination is an established fact, and it is with a certain amount of dread that one looks forward to the next epidemic in London, as the fear is that many deaths will occur before the prejudice will be broken down and the benefits accruing from vaccination realized.

Tuberculosis.

Tuberculosis is rife in New York, even more so than in any other place throughout the world. Italians arrive in thousands from the beautiful sunny slopes of Southern Italy, where they have had the advantages of a lovely climate, a free life, and abundant fresh air, uncontaminated by an organic atmosphere which is ever present in the poorer and overcrowded districts in New York. Here they are dumped down among others of their countrymen amidst streets innumerable and foul-smelling, with all sorts of garbage and unnamable filth. They are huddled together in tenements, often six or seven stories high, and in many cases a family live and sleep in the same room. Were it possible to obtain fresh air without incurring the expense of railway travelling, the condition of affairs might be modified; but they are located in narrow streets, crowded with a seething humanity, wheelbarrows, and rubbish-carts, and even their back windows only a few feet removed from those of their neighbours. Into a condition of affairs like this comes the healthy Italian—in many cases to his doom; and in others, when the dread disease has reached an advanced stage, his one desire is to return to his native land. It is said that the whole of Southern Italy, which a few years ago was entirely immune from tuberculosis, has been infected in this way. Dr. Josephine Baker, in making the statement, "The Italians die like flies here," may be taken as an accepted fact. There is no comparison whatsoever between London and New York

in the matter of overcrowding. Centralization is pitifully exemplified in the latter, and must sooner or later, despite all the attention given by them to the infant population, reap its own harvest.

Treatment.

Treatment of children by nurses, if universally adopted, cannot be too strongly deprecated, even if they are what might be termed minor ailments, particularly when dealing with eye conditions. It does not seem to be quite in keeping with the general duties of a school nurse to treat cases of any kind. By doing so she is assuming the duties which should devolve upon the parents; and if the latter are to be relieved of all their responsibilities, the nurse's work will ultimately come to be of a very multifarious character indeed.

Morning Inspection.

A daily visit to the schools under his supervision paid by the physician has already been dealt with, but it is a question whether or not this is at all necessary or desirable. His instructions are: "To visit daily before ten o'clock all the schools under his control." What can be gained by so doing? First, he must see all cases which are suspected to be in the early stages of an infectious disease. He may see a number of children suffering from defects. There are 4,500 children under his control, and if they are scattered over four schools, it must require a big hustle to even call in at each school before ten o'clock, without the additional work of examination. Slip-shod diagnosis is the inevitable result, with its appertaining unreliability. More responsibility must be thrown on the teachers, and all cases suspected by them rigidly excluded unless certified by the physician as suffering from an infectious disease. This would save the probable mistakes which must occur in many cases when this hasty style of inspection is practised. A means of remedying this is to have a central waiting-room for, say, ten or twelve schools, where every child referred to the physician for examination may attend. By each doctor taking certain days for the work, there will be much greater efficiency and an appreciable saving in time.

Pediculosis.

The system adopted of referring to ailments by numbers instead of names is an admirable one, particularly in the case of pediculosis, but it cannot be said that in New York sufficient attention is paid to its control. The worst cases at the so-called "routine" inspection are certainly put aside, but the majority are allowed to pass. Seeing that this is a disease which is much more prevalent among girls than boys and that the classes are separate, there should be no fastidiousness or false modesty about its treatment. Female teachers should openly show their pupils how to deal with their hair, and the enormous percentage of children with unclean heads will be very greatly reduced. They are infinitely worse in New York than in the large towns in England or on the continent of Europe. A peculiar point in the regulations is that only children with live pediculi are excluded. How can anyone—doctor, layman, or nurse—tell by a casual glance whether live pediculi are present in a child's head or not? Further, if a child's hair is covered with nits, it is only reasonable to suspect that at least some of the fully developed insects will be present.

Authority for Treatment.

Authorizing treatment by parents granting a certificate to a nurse, empowering her to take the child to an institution or dispensary to receive medical attention, is a step in advance of any other system. This is only a shade removed from a system of compulsory treatment, but does away with the objectionable word "compulsion." In the face of certain opposition to an organized system of school clinics and the time which will be wasted before such can be legalized, this idea might well be adopted by school authorities everywhere. The greatest care is taken to see that the child is first of all referred to the family physician, and instructions to parents always contain this proviso, but many cases of an urgent nature must occur where there is no private physician in attendance on the family. In such cases it is certainly advisable to extend the system still further by em-

powering the nurse to use her discretion in dealing with them, and a good deal of time which is at present wasted in making inquiries would thus be conserved.

Staff.

The staff which New York possesses is by no means inadequate to carry out a thorough system of medical inspection. One item, however, which might fairly be criticized is that in the case of routine work both nurse and doctor are present; thus, the duties are duplicated, and the time of either of them might be utilized to better advantage. In every instance the teacher is present, and he or she could very well be entrusted with the purely mechanical or clerical work of putting down the names of children referred for further examination.

The Medical Officers.

One glaring anomaly noticeable to a Britisher is the lack of care exercised by the average American general practitioner in regard to his personal appearance. Whether this can be attributed to the fact that the commercial element is the one predominating feature which characterizes the American generally, or to carelessness on the part of the individual men themselves, who are continually rubbing up against a seething mass of squalid humanity, it is difficult to say. It is no uncommon circumstance to meet the average school medical officer in no better habiliment than a third-rate London clerk. He is usually in possession of a beard of three days' growth, in a lounge suit greasy at the neck and baggy at the knees, collar and cuffs by no means irreproachable, and sometimes a quid of tobacco in his cheek. He is a marked contrast to the medical officer to be met with even in the poorer districts of London—with his silk hat and frock-coat, clean linen, and general bearing of a doctor, who considers it his duty to uphold the dignity of his profession by carrying out the traditions which have always been recognized as indispensable in a man of education and refinement.

Summary.

The basis of the whole system of medical inspection in New York is unquestionably sound, but being of quite recent growth, mistakes must inevitably occur and be rectified. The authorities can well command the admiration and esteem of all nations throughout the civilized world for their honesty of purpose, their extreme desire and unswerving endeavour to protect their children from the ravages of disease, and to see that their physical condition is in no way neglected.

CHAPTER XV

TORONTO

DR. CHARLES SHEARD, who occupies the position of Chief Medical Officer to the City of Toronto, is totally opposed to the elaborate system of medical inspection adopted by the cities and corporations in the United States. He is very scathing in his criticism of the latter, but a certain amount of latitude must be allowed for the natural rivalry which exists between the two nationalities, Canada and America. He admits that medical inspection in a limited way might be beneficial in detecting early unsuspected cases of tuberculosis and in preventing the spread of other infectious diseases.

Dr. Sheard's Views on Medical Inspection of Children.

To quote his own words: "This elaborate system of medical inspection is a pure fad, instituted principally by women, who are apt to give way to sentiment and listen to the talk of agitators who desire easy billets for their friends, with good pay and little work. We have in Toronto a very small percentage of the foreign element. There are about 40,000 children, and I do not believe there are 5 per cent. unfamiliar with the language, and not 10 per cent. unable to procure private medical assistance. When this commotion for a scheme of medical inspection in public schools was first started, a medical man was appointed to visit all absentees and report to the authorities. He did not earn his salary.

"Twelve months ago a number of medical men were appointed to examine all children set aside by the teachers as having physical defects. These were classified by the medical men, and were found to be so few that we decided against appointing scores of doctors

and nurses, as we considered there was not sufficient data to warrant it. I am of the opinion that if you start a system which would involve continuous and elaborate examination of children, you will have trouble with parents and also with the family physician.

"It is ridiculous nonsense to have systematic school nursing in Toronto, as parents are well enough off, and quite intelligent enough to understand when their children require treatment. We have no trachoma here—I mean infective granular conjunctivitis, not ordinary granular lids, which I do not consider to be infectious; nor is it true trachoma.

"Our most trouble is with pediculosis, but only about 2½ per cent of the children attending school can be said to be verminous. These are excluded until eradicated. If this is done, and a dispute arises as to whether or not a child actually is verminous, the case is referred to the medical officer of health for examination. The health officer is in close touch with the teacher. Besides this, all medical men are instructed to report infectious cases to the Board of Health. On receipt of these reports the latter notifies the schools. An inspector (a layman) then visits the particular school or schools, and satisfies himself that no pupil from a family in which there is a case of infectious disease is attending school, and excludes any other pupils he considers suspicious.

"Measles is not a notifiable disease in Toronto, but I am of opinion that it should be, as it is apt to be looked upon as of slight importance. A record is kept of all schools and the rooms in which infectious cases have occurred, and if these are numerous we close the room. Thus we corral all infectious diseases, and would not be assisted by elaborate medical inspection.

"You cannot run a Health Department on a bacteriological basis. *Bacillus coli communis* is no indication of enteric fever, and we find it in our drinking-water daily. I do not hesitate to drink it. As regards the Klebs-Löffler bacillus, it is not indicative of diphtheria. For instance, we had a child whose throat was said to be affected, and on taking swabs we found the diphtheria bacillus. This child was isolated from week to week, and we still continued to find it.

After eight weeks the father again brought in a swab, which on being examined was found to contain the bacillus. He became very indignant over it, as the swab had been taken from the throat of another person altogether. Further, after being discharged, this child was carefully watched. She nursed a family of eight children, and not one of them had diphtheria. To further exemplify this, we took swabs from the throats of all the occupants of one of our institutions, and found the bacillus present in 20 per cent. of the cases examined. Further, I say that in cases of scarlatina, especially where you have nasal irritation during the third week, the Klebs diphtheria would be found in 40 per cent. of the cases. At first these discoveries used to alarm us, but now we ignore them. We don't treat them, they don't infect anyone, and we don't lose a case. Clinical diphtheria and bacteriological diphtheria are two totally different things. The latter can be ignored, but the former must be protected. All our statistics are on a bacteriological basis, but we are wrong. I am speaking to you now as a practical sanitarian. The Board of Health are, I think, catering more to public sentiment than to medical science. In a large number of so-called infectious cases we have not found them to be infectious.

"As regards teeth, they are probably a very important point to be attended to in children, but I object to the municipality assuming the duties and responsibilities of parentage. In cases of tuberculosis I would be very drastic, and exclude every child with discharging enlarged glands or cough with expectoration, as I regard every case of tuberculosis as dangerous and a menace to the health of the city. To thoroughly combat the disease separate open-air schools should be established. The forms of skin disease which we exclude are ringworm, impetigo, prurigo. I now furnish you with the results of the medical examination of schools in the city of Toronto. I have in this summary given the results of the examinations by the teachers, as well as the same pupils re-examined by duly qualified medical men. It will illustrate, also, the value of teachers' examinations, as well as give you fairly accurately the extent of physical defects amongst the school-children of our city."

Medical Inspection of Schools.

	West of Yonge Street.	East of Yonge Street.	Total.
Number of pupils examined ...	14,377	16,155	30,532
Cases of defective vision under treatment and wearing glasses ...	424	328	752
Cases of defective vision supposed to be such by the teacher ...	983	1,052	2,035
Cases of defective vision as found upon medical examination ...	428	764	1,192
Cases of defective hearing, or discharges from the ears, or aural conditions suspected by teacher...	278	282	560
Cases found upon medical examination...	129	228	357
Cases of mouth-breathing suspected by teacher	164	197	361
Cases of mouth-breathing found to be such upon medical examination...	71	163	234
Cases of dull or backward children	20	21	41
Cases suspected of such by teacher	—	33	33

Summary on Dr. Sheard's Views.

Thus, even on Dr. Sheard's own figures, it will be clearly seen that a very large percentage of children in Toronto are physically defective, and the stigma which he casts upon the American methods of medical inspection in their schools is not really justified. Conditions in Canada and in the large cities of the United States are not parallel, but if a conclusion is to be arrived at from the statistics quoted above, a very strong argument in favour of the systematic system of medical inspection has been adduced. There is probably something to be said in favour of the views advanced by Dr. Sheard, but most medical and scientific men will agree that bacteriology in recent years has been a most important and essential adjunct to the diagnosis and treatment of disease, and many valuable lives have been saved through its instrumentality. If Dr. Sheard's theories be

correct, the whole fabric of modern medicine must collapse like a house of cards.

His views on trachoma will not be accepted by the majority of eye specialists in Great Britain. According to Gould and Pyle, granular lids and trachoma are synonymous terms. This, however, is a debatable point, which it is not advisable to discuss here.

Enteric fever is not generally claimed by physicians as being due to the *Bacillus coli communis*, but it is not too much to say that very few would indulge in the luxury of imbibing drinking-water freely impregnated with the germs.

In the case of diphtheria, Dr. Sheard enters upon very debatable ground, as many authorities quite agree that a certain percentage of people walking about the streets apparently quite healthy are carriers of the Klebs-Löffler bacillus, but to say that the percentage is anywhere near 20 is rather an overestimate.

With the practical results of medical inspection in public schools Dr. Sheard admits that he has had no experience, and although his views coincide to a very material extent with those of a number of eminent medical men, whose theories must be regarded with the utmost respect, we cannot, in face of the practical results which have been obtained by scientists of the present day, accept his opinion as that of the majority.

CHAPTER XVI

MEDICAL INSPECTION IN GERMANY

Cologne.

COLOGNE is a town of about half a million inhabitants, and the children attending the elementary schools number somewhere between seventy and eighty thousand.

School Dental Clinic.

Anyone desirous of obtaining information as to the methods adopted in Germany for the care of the teeth would be amply repaid by investigating the splendidly equipped dental clinic recently established here, which, according to the English acceptation of the term, is really an out-patient department for the preservation of the teeth of children in the elementary schools. It is situated in a convenient place as near as possible in the centre of the town.

The building itself is by no means modern—in fact, it was only by completely reconstructing the interior that it was turned into the up-to-date establishment which it undoubtedly is.

Officials.

It was established in May, 1908, and is under the direction of Dr. Zilkins, whose duty consists practically of supervising officer, but he also spends one or two hours a day in the work of the clinic. Under his direction are two capable assistants, who, being permanently employed, are able to devote their whole time to the work, which, judging by the continual stream of patients, is by no means a sinecure.

Objects.

It should be mentioned that it is not solely for the treatment of school-children that these clinics have been established, but for certain poor people and a number of others unable to employ a dentist privately. The treatment is entirely free of charge, the cost being borne by the ratepayers.

As you enter the door, on the left-hand wall is a notice containing the following items as to who may be treated:

1. Elementary schools of Cologne and suburbs.
2. Children under school age whose parents are too poor to engage the services of a dentist.
3. Destitutes, who must show a form duly certifying them as such.
4. All servants employed in hospitals and all those sick in the same; but no one simply attending the out-patient department is given free treatment—only those actually in residence.

Other patients may be treated on producing an order from a doctor or a dentist, but they must pay the actual cost incurred by the treatment (out-of-pocket expenses).

It very seldom occurs that a case is refused, unless the order comes from an unqualified doctor or dentist.

Anyone belonging to a lodge or friendly society is sent on to his private attendant (most friendly societies have a special dentist of their own). Every care, however, is exercised so an to insure that no one who is in a position to pay privately takes advantage of the clinic. A large number of leakages naturally occur.

Should a poor or destitute person require false teeth, he receives a note from a dentist advising the Poor Law Guardians that the case is one of necessity. On receipt of this order the teeth are supplied, for which the Guardians pay at a certain fixed rate. During last year over 11,000 were treated, nearly all of whom were children.

Method of Procedure.

The method of procedure is as follows: All pupils attending the schools are periodically inspected by the school physician. Should

the latter find that a child's teeth require attention, he signs a certificate, which is taken to the parents. There is no obligation on their part compelling them to have their children treated, but usually a certificate from the doctor is sufficient. If, however, an urgent case should occur in school, the child may, on the recommendation of the teacher, be taken to the clinic for treatment. Except under these circumstances, the sanction of the parents must first of all be obtained. With this certificate the parent accompanies the child while being treated.

Admission Form.

A form is used by the dentist, which is divided into three columns. On the first are filled the date and hour when the child first called; on the second the date on which he is required to return. These two are filled in at the clinic, and sent to the teacher, who fills in the third column, giving the day on which he can most conveniently permit the child to attend, and at what hour. As the schools are closed on Wednesday and Saturday afternoons, these two days are usually devoted to children living in the suburbs, on account of the distances they may have to travel. The above card, when filled up, must be shown to the parents and brought back every time the child attends the clinic. Printed instructions are given in each case as to the care of mouth and teeth.

The dentist keeps a record of the date when the child called and what was actually done. These records are all filed alphabetically at the clinic, certain signs being used for expressing the disease with which the teeth are affected. Each child has instructions to call at a given date, and if he returns on this particular date he receives a present of a tooth-brush, a form of bribery often deemed necessary when dealing with children, and the dentists are of opinion that it is giving the work a big fillip, as children, once they leave the operating-chair, are not, as a rule, too anxious to undertake the ordeal a second time.

Waiting-Rooms.

There are two large waiting-rooms, fitted with every comfort. They are clean and well ventilated, and provided with a gas-stove for heating purposes during the winter. The rooms are about 24 feet by 12 feet, and the ceilings all over the building are 14 feet from the floor.

Instructions to Patients.

On the wall is a big placard expressly meant for children and people who, either from ignorance or inadvertence, neglect to follow the verbal instructions given. This notice contains the following:

1. If you have a wound in the mouth or gums, do not touch it with the fingers, as blood-poisoning might ensue.
2. After your mouth has been treated by the dentist, you must cleanse it by washing. Use a pinch of salt in a glass of water.
3. If anything has been put into the tooth to allay pain or kill a nerve, you must return to have it removed.
4. If bleeding occurs after extraction, you must call again.

Two waiting-rooms are necessary, as it is not uncommon to have 100 patients requiring attention in one day. The maximum has been 143 since the establishment of the clinic.

Operating-Room.

Leading out of one of the waiting-rooms into the operating-room are double doors, with a space between. One of these is padded, a necessary precaution, to prevent unpleasant sounds being conveyed to children waiting to enter the torture-chamber. The walls of this room are Japanese lacquered, pure white and easily cleaned. Hot and cold water is laid on at the basin and douches. The dental chair, of a recent pattern, is convertible into almost any position. All the instruments are kept in aseptic glass cases, and every one must be sterilized after being used. The local anæsthetic which seems to be in general use is a tablet containing the following ingredients: Cocaine muriatic, 1 per cent.; suprarenin, 13 in 10,000;

boric, 9 in 1,000, made up with common salt. Two of these tablets are dissolved in two cubic centimetres of warm water before injecting. For general anæsthesia, ethyl chloride is most frequently used, and sometimes as a local anæsthetic if a tooth is loose, but the dentists are of opinion that it is quite valueless in a bad extraction. The narcosis with ethyl chloride lasts about two minutes, with fifteen seconds' administration; and should further extractions be necessary, the anæsthesia is continued with chloroform, a similar mask being employed in each case, except that in the latter, being less volatile, no indiarubber cover is required.

The mouth-wash which is used at the clinic consists of a mixture of tincture of myrrh, peppermint, and peroxide of hydrogen, well diluted. In one corner of the room is a large sterilizer for bandages, lint, and cotton-wool. Every room throughout the building is supplied with a gas-stove for heating purposes. Gas is also used for lighting purposes in two of the three operating-rooms, as the dentists seem to prefer this light to electric. The third operating-room, which is lit by electricity, is only required when anæsthetics are administered at night, as there is usually quite sufficient light during the day to obviate this necessity.

Sterilizing-Room.

Adjoining the operating-rooms is the sterilizing-room. As each child is supplied with an aluminium cup, which must be thoroughly cleansed and sterilized after use, this room is entirely set aside for sterilizing purposes. Along one side is a row of basins, for rinsing the mouth after operations.

Workshop.

Leading out of this is the workshop, in which are all the appliances required for making up artificial teeth. The two assistants, if they have time, make up teeth on their own models, but very often Dr. Zilkins's private assistant is required.

Laboratory.

The room next this is used as a laboratory, for section cutting, and every form of microscopic work.

Other Accommodation.

Besides these rooms already mentioned are the doctors' private rooms, accommodation for nurses, and facilities for storing all necessaries—bandages, lint, wool, antiseptics, drugs, etc.

A pleasing factor is the absence of prejudice which exists among the profession in Cologne regarding this new system. There can be no question that this is one of the most up-to-date establishments which the requirements of modern dentistry demand. All the dentists work in unison, realizing that the purport is one for the improvement of the teeth of those children who would otherwise be neglected. The municipal men are treated by their colleagues, not as backsliders and renegades, but as public benefactors—a condition of affairs which must command the admiration and esteem of all broad-minded citizens, and which will go a long way towards breaking down the antipathy which is tending to nullify the whole scheme of medical inspection throughout the world.

Medical Inspection.

The system adopted in Cologne is a new one, so far as America and England are concerned. It consists of four examinations of each child during the year. This is done at regular intervals, but only one is really of the nature of a physical examination, the others partaking more of the American system of routine inspection. Before a child is examined (when he first enters school) a notice is sent to the parents, informing them that the doctor will visit the school at a certain time, and that their presence at the examination is desired. They can appear or they may object, but this seldom occurs.

Each doctor has about 2,500 children to examine each year. These represent about three schools. Each of the latter is provided with a room for this specific purpose, with weights and scales, height

apparatus, etc. All the usual infectious diseases are excluded from school, but a rigorous policy is adopted if a child purposely neglects to attend without reasonable excuse.

There are no attendance officers, but the police must prosecute any parent neglecting his child, and the attendance at the schools generally is very high. The regulations are under the control of the State, but the municipality must pay all the expenses of the schools and their maintenance. When a doctor examines a child and finds him defective either in teeth or eyes, he is referred to one of the clinics for treatment. No child attending the ordinary elementary school is charged for such treatment, even spectacles being provided by the municipality. In other cases a child is recommended to the family doctor, but poverty is no excuse for a parent to neglect his child. He must be attended, either privately or at a hospital. There are no clinics at school or elsewhere for the treatment of other affections.

Provision of Food.

Necessitous cases exist in Cologne, as they do elsewhere. Hungry children are by no means exceptional, and these are provided with milk and bread during the winter months, and very often even with shoes and stockings. A little friction has recently occurred, owing to a tendency for this purely charitable action to be taken advantage of by parents in a good financial position, and more care and vigilance has since been exercised, so as to insure that only those actually in need receive assistance.

An eye specialist is appointed to examine every child's eyes twice a year, and if defective, a form filled in by the physician is sent to the parent, who can apply to the eye clinic for treatment.

School Baths.

What strikes one in all the schools of Cologne (four of which were visited) are the splendid baths which are provided. In most of the schools the bath used is oblong in shape and large enough to accommodate ten to twelve boys. In this they are scrubbed once a

week, and have to stand up while an attendant turns on the shower. The temperature of the water is regulated as desired. Girls had the same until two years ago, but this was discontinued owing to parents objecting to a number bathing in one bath. This seems rather fastidious, and to err on the side of false modesty. The result is that only those girls attending the newer schools have the benefit of a weekly bath. Here they are all subdivided by partitions into small baths, but only the shower can be used. The schools themselves are well equipped, and every one is provided with a gymnasium. The general aspect and condition of the children and the discipline are good. In cleanliness and physical development they are quite equal to the average. The system in vogue all over Germany is a bi-weekly half-holiday, instead of the whole day on Saturday. It is a moot point as to whether or not this is preferable to the whole day, which is universal in America and England.

Eye Clinic.

This is situated in the middle of the town, and is under the personal supervision of Professor Propsting, who devotes several hours a day to the work, assisted by a whole-time eye specialist. This establishment was originally a private one, conducted by the Sisters who at present act as nurses. Five years ago it was taken over by the municipality, and is devoted entirely to the treatment of necessitous cases and all children attending the elementary schools—in fact, precisely the same class of cases which are attended at the dental clinic.

On the ground-floor is a large waiting-room, which is also used by the doctors as a conference room, and is provided with a dozen ophthalmoscopic lamps, so that a number of cases can be examined at the same time. In the corner of this room is an enclosed space for photographic purposes, and here also is the electrical apparatus for a large magnet used for extracting steel splinters. Adjoining this is a room used for treatment, microscopic work being done here as well as the cultivation of bacilli, and other bacteriological appliances are also provided. Adjoining this is the eye-testing room, in which are the electric cauteries, and snares, and other instruments.

On the next floor is the operation-room, where all major operations are performed. Sterilizers for instruments and bandages, as well as aseptic cases for the former, are kept here, as well as another powerful magnet. Adjoining this are several dark rooms for patients who have been operated on, as well as two or three rooms for any private patients, who must pay a reasonable fee for their attendance. On the top floor are three wards—for men, women, and children. In fact, the whole clinic is simply an ophthalmic hospital, with all modern conveniences, and about 100 patients are treated daily.

Mentally Defective.

Four schools are provided for the mentally defective, situated in suitable parts of the city, and similar in every respect to those in England. The physically defective are at present accommodated in the hospitals, at which they receive instruction; but a new establishment for cripples is being erected at very great expense, and it is expected that one of the most up-to-date institutions of the kind will be the result. It is needless to remark that Cologne is well advanced in educational and medical science, and although some inattention towards the children was noticed, particularly the fact that two in one bath were suffering from impetigo and ringworm, the general attention paid to them is on the whole satisfactory. The great difficulty to contend against must always be the conservative attitude which prevails against the institution of new systems everywhere. When that prejudice is broken down and the matter looked at, not from a parsimonious standpoint, but from that of the amelioration of the physical condition of people generally, the enlightenment of their intellects into the true and proper meaning of medical inspection, nothing will bar the progress of sociological reform. The burden of taxation must fall proportionately upon the shoulders of the wealthy and the artisan, not upon the destitute and afflicted. All these must ever remain, and they have existed from the foundation of the Christian era, and will continue till the millennium to be a millstone, to be carried by those better fitted and provided for by Nature to bear the heat and burden of the day.

CHAPTER XVII

CHARLOTTENBURG

BEING the first city in the world to adopt the system of open-air schools, it is only natural that a visit should be paid to those at Charlottenburg.

Open-Air Schools.

These were first instituted five years ago by Dr. Neufert, the energetic Chief Medical Officer, and proved so successful that the system has been gradually extended from year to year, until in 1909 there were for six months 240 children in attendance. The bulk of these left on October 1, but 82 remained, as they were classed as still below par, and it was deemed advisable to give them three months' extension of the treatment.

Waldschule.

The term "open-air school" is not allowed to be used by Dr. Neufert, but "Waldschule," or forest school, so named because it is situated in a pine-wood about three miles from the centre of the town. Hitherto it has been "far from the madding crowd's ignoble strife," but the desecrating hand of the building contractor is gradually turning the pristine simplicity and natural beauty of the neighbouring country into the busy haunts of men, and these primeval forests are gradually being converted into asphalted streets and innumerable dwellings. The school itself, which has prospered for five years undisturbed, must be removed next year some two or three miles farther out.

Conveyance of Children to School.

Children are conveyed to the school, or within half a mile of it, by three special cars, which run through the centre of the town. The cars pick them up at convenient centres, and return them in the same way in the evening. All classes from the elementary schools except the first are admitted, and if a child is too small, although old enough, the parents are advised to keep him at home for six or even twelve months.

Regulation.

The school is divided into twelve classes in the summer and six in the winter. They are mixed, boys and girls being taught together. In the summer they arrive at eight o'clock, in the winter at half-past. Immediately on arrival they have first breakfast, which consists of milk with bread and butter. One hour's rest is then prescribed for one of the six classes, the other five going on with school work, but every twenty-five minutes there is a break of five minutes in the morning and ten in the afternoon. Even with these intervals no child is allowed to have more than three hours' tuition in a day, and in the case of younger ones this must not exceed two hours, as the work is not intended to be at all laborious. The second breakfast is at 10 or 10.30, the former in summer and the latter in winter. This consists of the same diet practically as the first—bread and jam and milk. School then starts afresh, and continues with the usual interludes until 12.30 in summer and 1 o'clock in winter, when dinner is provided. This is made as varied as possible: a different dinner being given each day of the week, and consisting of soup, meat, lentils as soup, vegetables of all kinds, milk-puddings of every sort, and on Sundays fruit.

Rest.

After dinner one and a half hours' rest is prescribed, and for this purpose deck-chairs with rugs are provided. Here a considerable improvement might be made, particularly seeing that a number of children have spinal disease. A chair has been suggested, folding in

precisely the same way as the above, but with a double hinge on each side and bolted in the middle of the cross-pieces. The cost would be a trifle more, but the comfort compared with those used would more than compensate for the additional outlay. From the figure shown it will be seen that the chair almost resembles a hammock. Rest is always taken in the open whenever it is at all practicable to do so, but in wet weather sleeping-sheds are used.

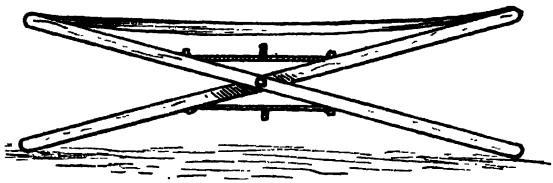


FIG. 33.—SUGGESTED RESTING HAMMOCK FOR OPEN-AIR SCHOOL.

Sleeping-Sheds.

These are high in front (18 feet), and slope towards the back. The whole of the front is open and faces the south. These sheds are substantially built and roofed, and the wind is allowed to blow through them by opening up the back, if necessary. If the weather is genial, all teaching is done in the open air; if not so good, it is carried on in the sleeping-sheds, which, however, have no storm or weather blinds. At half-past three milk and bread are again given; following this the children do their home lessons in little huts like summer-houses, dotted here and there all over the place, but they are on no account allowed to sit for any period exceeding twenty-five minutes. Tea, so called, without tea, comes on at 5.30 in the winter and 6.30 in the summer. This consists of bread and jam and milk—sometimes soup, if a child happens to be particularly run down.

Class of Cases taken in.

Diseases from which children mostly suffer are heart disease, early tubercle without sputum, spinal disease, and general cases of

malnutrition and anæmia. The desire of the promoters is to give a child as much milk as he will drink, plenty of exercise and fresh air. (Every child has 1 litre of milk a day.)

Dining-Shed.

The dining-shed is open on all sides, and is roofed in rather primitive Australian fashion with canvas or hessian, but it seems to give every satisfaction.

Classrooms.

The classrooms are only utilized during the winter and in cold, wet weather. They are fine high, airy bungalows, well ventilated and lit, every child being allowed 20 square feet of space. The desks, however, are of the old pattern, four or five being accommodated at each. The ventilation is done by natural draught through the windows (which face the south), ceiling, and back. Every classroom is provided with a stove for heating purposes (this is of the tile pattern), but it is only used during the winter.

Bathing Accommodation.

The bathrooms are, of course, temporary in character, owing to the uncertainty of tenure of the site, but they are clean and practicable, hot and cold water being laid on, the former by means of a bath-heater. There are two plunge-baths (salt and fresh water), and adjoining these is a good powerful shower. Every child must receive a bath once a week.

School Physician's Duties.

The physician visits the school weekly. His duties consist of general supervision and advice as to dieting, etc., but no treatment.

Sun-Baths.

Sun-baths are taken right through the summer in a place specially enclosed for the purpose. Every child, unless he suffers from heart disease and is ordered by the doctor not to have it, or his parents

disapprove, must have a sun-bath. This consists in walking about in the sun, playing around generally, and doing exercises on parallel bars, rings, etc. At the beginning of the treatment five minutes is prescribed, but this is gradually increased to ten. A nurse must always be in attendance to see that after the sun-bath every child has a shower. This shower is laid on in the enclosure.

Lavatories.

The lavatories are of the old pattern—probably due to the fact that there is no fixity of tenure.

Kitchen.

The kitchen is large and airy, and the stove is placed in the middle of the floor.

Cloak-Rooms.

Four cloak-rooms protect the hats and clothing from rain. Here are also stored the rugs and woollen cloaks which are supplied by the municipality to every child. Instead of galoshes, each has a pair of wooden Dutch clogs for wet weather, as in many instances, particularly among the poorer children, the boots are leaky, and the feet wet on arrival at school.

Construction of Buildings.

All the houses are built in sections, so that they can readily be removed from one place to another. Some of the classrooms are made of rubberoid or malthoid; in two of them the roofs project well over the eaves, as a protection from wet weather. They are lined with matchboard, and are termed "winter classrooms."

Surroundings and Grounds.

The whole surroundings form a veritable Forest of Arden. Right down in one corner we find a sand-pit, with a well-executed map of Africa dug out of the ground, and alongside of it is the island of Guernsey. All geography is taught outside, modelling being done

from maps. Stones, or heaps of stones, represent the towns, mounds the mountains, and tissue-paper the rivers. A rocky coast is shown by declivities, gradually levelled away on coming to a sandy beach. Physical geography is also taught in the same way. Trenches are dug to represent rivers; bridges are made of wood; islands and caves represented in similar fashion. In front of the school is a garden, which is attended to solely by the scholars, and elementary botany is taught from the trees and flowers, and for drawing, which is done entirely from Nature.

General Supervision.

Every child is weighed once a month, and height is also taken. The physician, who attends once a week, estimates the hæmoglobin on admission and on leaving, and a nurse is always in attendance, so that in the event of an emergency arising a sick child may be attended to at once until the arrival of the doctor. The average weight gained last year was 7 to 8 pounds per child. At the end of the six or nine months every child is examined by the school physician, and may be ordered to return to the ordinary school. About 90 per cent. attend the forest school for one year only, 10 per cent. return for a second term, and half of these for a third. They must, however, be certified by the school physician as suitable cases before being admitted.

Cost of Scheme.

The scheme, which costs the Corporation about 52,000 marks a year (representing £2,500), is supplemented by the children, who pay an amount in accordance with the financial position of their parents.

Cost to Parents.

The highest amount is 50 pfennigs a day (or about 6d.) down to 5 pfennigs (½d.). The very poorest pay nothing, but their cases must be thoroughly investigated before the parents are allowed to escape without payment. A charitable society exists for the purpose of assisting these poor people, so that no case is allowed to be neglected, whether he pays or not.

Sunday Attendance.

Children attend the school just the same on Sundays, and are usually accompanied by the parents. Of course, no school work is done, but Biblical teaching, playing around, and romping generally. On Wednesday and Saturday afternoons there is no tuition, and an additional half-hour's enforced rest is prescribed.

Recess Colonies.

The scheme for forest schools has during the last year or two been extended by the foundation of what are termed "recess colonies." During the summer's recess (July to August) about 3 per cent. of all the children attending school are sent to the mountains or seaside. The doctor examines all cases submitted to him, and recommends suitable and rejects unsuitable ones. This 3 per cent. means that about 800 children out of 26,000 have the benefit of a change at the seaside or the mountains every year. Should some of them not have benefited as much as might be desired, they are returned for a further term of one month.

Cost of Recess Colonies.

The Corporation subscribe 27,000 marks (or about £1,300) for this purpose; but as it costs 40 marks for each child, this amount is supplemented from the charity fund. Very few of the children pay anything towards their maintenance, as in the majority of instances the reason for the selection is on account of malnutrition brought about by insufficient feeding and a lack of fresh air.

Well might Dr. Neufert regret the devastating hand of the spoiler who is laying to waste the beautiful woods and valleys of God's acre; but such things must take place in these times of severe struggle for existence, when the first essential factor is to live. The beautiful picture of tall pine-trees and leafy glades, which remind one of the following Shakespearian quotation—

> "And this our life, exempt from public haunt,
> Finds tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything."



—is rapidly disappearing, and Dr. Neufert's first forest school will soon cease to exist, to be replaced by solid masonry and busy streets.

System of Medical Inspection.

The system of medical inspection of the schools is similar all over the Kingdom of Prussia. Charlottenburg is divided into fourteen districts, each of which has one large school, which is divided into two, one side for boys and the other side for girls. One medical inspector is appointed for each school, in which there are about 1,500 to 1,700 children.

Regulations.

There are certain regulations which govern school inspection all over the kingdom. As in England, every child must be physically examined within the first six weeks of entering school. The parents are notified as to date and time when the examination will take place. The doctor also visits the school at regular intervals for the purpose of physically examining others, three examinations being considered necessary during the child's school career—one on entering, one three years later, and one on leaving. No treatment is allowed, and there are no children's clinics.

Infectious Diseases.

In the case of infectious disease, such as diphtheria, the child is sent home, and the parents notified that neither this child nor any member of the family will be allowed to attend school for six weeks. Scarlatina is treated in the same manner. This notice is sent by the head-master, under instructions from the doctor. A certificate must be produced, either from the family physician or the school doctor, that the children have recovered before they are allowed to return to school. Should any infection or suspicious skin disease occur, the head-master sends for the doctor, on whose report the child is either allowed to remain or is sent home.

Contagious Skin Disease.

The rules which govern school inspection in Germany are not nearly so stringent as they are in England or America. Impetigo contagiosa is not regarded as debarring a child from attendance at school, and Dr. Neufert states that ringworm never occurs; favus he sometimes sees, but very rarely.

Mentally Defectives.

There are three schools for the mentally defective in central positions in the town, and two for smaller children who are unable to walk very far, the latter being in the most populous centres at each end of the town.

Physically Defectives.

There is no school for physically defectives, but one teacher in every school is reserved to look after children apparently physically unfit to keep up with the others. Cripples are taught in the hospitals by special teachers, but no particular school is reserved for them.

Dental Clinics.

Recently school clinics have been established to attend to the teeth, but they are so far only of an elementary character and by no means on the same plane as those in Cologne.

CHAPTER XVIII

MUNICH

MUNICH, which is the capital of Bavaria, is a very beautiful city, and the schools and hospitals are of modern design. The former are fine airy buildings, fitted with everything necessary for physical and mental training.

New Hospital.

At present (1909) a new hospital is in course of erection. It has already cost over a million pounds, and the first part, containing 600 beds, will be opened at the beginning of 1910. It is the intention of the municipality to combine in this structure everything appertaining to medical science, including a special clinic for school-children. The plans for the completed building are very elaborate, but it is estimated that it will be nearly ten years before it is completed.

Regulations for Medical Inspection.

Bavaria consists of eight provinces, each of which has a Principal Medical Officer, known as "Medicinal Rat." These are controlled by the Chief Medical Officer for the kingdom, who is known as "Ober Medicinal Rat." These appointments are made on the recommendation of an advisory board of twelve physicians, selected by the Government. Every district has its medical inspector, but it was only ten years ago that the system of medical inspection was inaugurated, Munich following the example of Nuremberg. Before entering school, every child must either have a certificate of good health from the family physician or be examined by the school doctor. At first there was a considerable amount of prejudice against these school

examinations, about one-fifth bringing private medical certificates. This prejudice has gradually disappeared, as parents have come to realize the meaning of medical inspection, and it is a rare occurrence for a child to enter school bringing with him a certificate from the private physician.

The examinations are conducted in precisely the same order as at Berlin and Cologne, each doctor having about 4,000 children under his control, and he must show a record of having made at least 1,000 examinations during the course of the year. He must, in addition, see all children referred to him by the head-master. The specified number of hours during which he must be engaged in

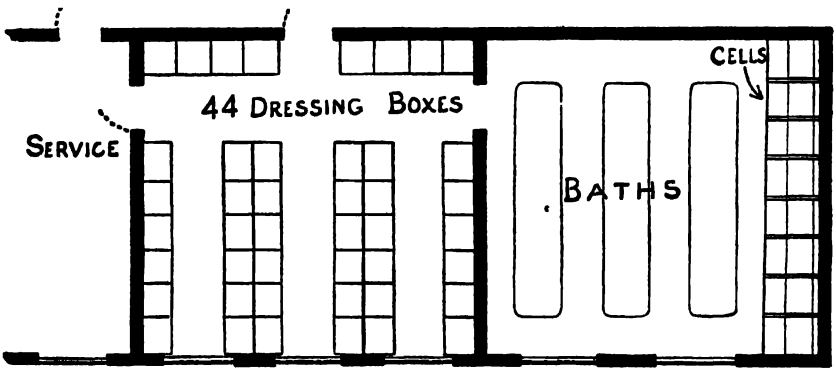


FIG. 34.—MUNICH, FLUHRSTRASSE: PLAN OF SCHOOL BATH.

school work is 250, for which he receives remuneration at the rate of 1,000 marks per annum, or at the rate of 4 marks (about 4s.) for each examination. He has no regular stated time to attend school, but at the beginning of each term the visits are more frequent, owing to the fact that every child entering school for the first time must be examined.

There are no school nurses, at which one is not a little surprised, but this is compensated for by the excellent system of hospital management. There is no special clinic for school-children, who are attended at the polyclinics, the hospitals, or the dispensaries.

Non-Attendances.

In connection with non-attendance, the system of circumspection is so perfect as to leave no loophole of escape, unless medical certificates are produced. The teacher of a particular class notifies the head-master if a child is absent. He sends to the parent, who is required to furnish proof of illness; otherwise he is summoned to appear before the school authorities, who may on the first offence simply admonish, the second is fined, and the third offence probably means imprisonment. Out of 66,000 children in Munich, the non-attendances, except from illness, do not amount to more than about $\frac{1}{4}$ per cent.

CHAPTER XIX

FRANKFORT-ON-MAIN

FRANKFORT-ON-MAIN is a town with 368,000 inhabitants and a school population of about 47,000. This number refers only to the elementary schools, and does not include the higher-grade and better-class schools. Dr. König is the Chief Medical Officer, and under his personal supervision the mentally defective and the elementary schools were inspected, and also what is known as the "Kinderort."

Kurfurstan Schule and Kaufunger Schule.

These form a combined school for boys and girls.

Description of School.

It is a modern building, four stories in height, with a basement. The corridors are wide and lofty, and all tiled. Germany, in all its public, as well as many of its private, buildings is particularly advanced in its means of decoration, everything in the schools being symbolical of some branch of education. In this particular building all along the corridors, on the tops of the pillars, are the signs of the Zodiac and different constellations.

Classrooms.

Another noticeable point is the thermometers in the classrooms. These can be read from the corridors, so that the temperature may be regulated without in any way interfering with the work of the class, holes in the wall being left for the purpose.

Kitchen.

In the basement is a kitchen, fitted with all necessary utensils; four being presumed to be the number in each family, a complete set is provided for every four children. Cooking is only taught to the highest class of girls, from thirteen to fourteen years of age, unless there happens to be a vacancy, which is filled from the next class. Pupils from four schools have cooking lessons at this one.

Provision of Food.

Near the kitchen is a room specially set apart for providing a warm breakfast for a number of poorer children during the winter. About 123 are receiving a free breakfast at the present time, consisting of warm milk and bread.

Heating.

In the centre of the building, on the basement, are appliances for heating. This is done by the means of steam pipes, which circulate all over the school.

Baths.

There is a special boiler to supply warm water for the baths, which are of the most up-to-date description. Forty boys receive a bath at one time, ten in each. These are really large tubs, about 1 foot deep, lined with tiles, and filled by a 4-inch pipe. The walls and ceilings of the bathroom are lined with tiles, and above each bath are three perforated pipes, which produce a very powerful spray effect. Ranged along one side of the bathroom are special rooms for the bigger girls to undress in, a general dressing-room being used for the boys and young girls. Every child has a bath once a week.

Medical Inspector's Duties.

A special room is reserved for the medical inspector, and each child has a separate record form, which carries him through his scholastic life. Anything noticeable by teacher or doctor is recorded,

and instructions given as to whether a child is to be allowed to bathe or not, have gymnastic exercises or not, etc. Cases of eczema are not excluded. Vision is tested on entering school, but not again, unless something particularly noticeable is detected, either by teacher or doctor. The latter, as a rule, visits the school once a fortnight. A special record is kept of the physically defectives on a separate form, which also contains the doctor's recommendations and directions to the teacher. Each child is weighed twice a year, and the weight recorded on a special form.

Kinderort.

Kinderort is the name given to an establishment which adjoins this school, and really means a children's club. It was built for the purpose of providing food and recreation for all children whose parents are out at work during the day, and consequently unable to give them the required attention. There are about 130 children at present taking advantage of the Kinderort, gathered from a number of different schools around. When the schools are in session, they go to the club from four till seven, and on Wednesdays and Saturdays, being half-holidays, from three till seven. During holidays they come in the morning from nine till twelve and in the afternoon from three till seven. It is divided into two departments, for boys and girls, and the charge made is 20 pfennigs, or a little over 2d. per child, per week. This pays for all meals, except dinner during the holidays, and when school is on, tea and supper, which consists of half a pint of milk and bread. Every child must pay, unless the case is a particularly hard one, when, on investigation, no charge is made.

German System of Supervision of Children.

What strikes one about the whole German system of schools is its modernity. Nothing is left undone to bring the children up under as healthy conditions as possible, and to see that no child suffers through inattention, either mentally or physically, although cases of insufficient feeding are by no means uncommon. This

particular school is situated in one of the poorest districts of the town, and the children may be taken as a sample of the poorest class in Germany.

Routine in Kinderort.

At the Kinderort they first of all do their home-work, and that being finished, games of various kinds are provided for them—for the older ones dominoes and draughts, and for the younger ones special toys suitable for their age. Some were seen to be engaged in drawing and chip-carving. One of the many advantages of this club is the retention of the children under surveillance and healthful environment, instead of allowing them to run the streets, neglected and half starved, and probably acquiring habits which would eventually prove disastrous. It is not a charitable institution, but one which is meant to be self-supporting, at the same time providing a home for recreation and amusement for children unfortunately circumstanced. The example is one which might be copied with advantage by many of our larger towns.

Physically Defectives.

Physically defectives are not provided with a special school, but careful supervision is exercised in cases of heart disease and other ailments.

System of Open-Air Treatment.

No open-air schools have yet been established, but one of the private charitable institutions has recently opened a home in the mountains, about fifteen miles from Frankfort. This is a sanatorium which combines the physical with the mental education, the latter being paid for by the Corporation. Any child is admitted on a certificate from the doctor who attends all cases under this particular charity. This establishment is really of the nature of an open-air school, with an improvement (the children do not return to their homes at night, and live under more healthy conditions). Nurses are provided, and although only opened in August, 1909, it is intended

that it shall be carried on throughout the winter. Cases recommended are those suffering from ailments similar to those for which they are admitted into the open-air schools of Charlottenburg and elsewhere.

Mentally Defectives.

Two schools for mentally defectives have been established in Frankfort, accommodating about 250 children in each.

Holderlin Schule.

The one visited was the Holderlin Schule, a very fine building about two miles from the centre of the town. There is a large playground in front, and plenty of accommodation at the back for garden, etc. The classes are twelve in number, with from twenty to twenty-nine children in each.

Qualification for Admission.

A child is not admitted into the mentally defective class until he has been at least one or two years at the elementary school. A special form, containing a report from the teacher as well as a certificate from the school physician, must be produced.

Special Medical Attendant.

Mentally defective children are not attended by the latter, but are under the care of a special physician. He reports at convenient intervals as to the welfare of all cases under his charge. On his recommendation action may be taken, either—

(1) To return a likely child to the ordinary school, or
(2) To put him in a home for imbeciles.

Class of Children in Attendance.

At the Holderlin Schule there are a large number who are clearly defective mentally, but, on the other hand, it is quite certain that many are only dull or backward. The transition stages through which one passes, from an ordinary intelligent child to the mentally

defective and imbecile, are so hazily defined that a description of what is meant by mentally defective is wanted before it will be possible to clearly differentiate one from the other.

Difference from London.

Between London and Frankfort is one very important point of difference. In the latter the child may leave the special school at fourteen, while in the former he may have to remain until sixteen. Should, however, the parents desire a child to remain after fourteen, and the teachers are quite satisfied that he should do so, he may be retained. This is a rare occurrence.

School Routine.

In summer school begins at 7.30 a.m.; from September to November 15 at 8 a.m., and after November 15 at 8.30. Only four and a half hours' attendance at school is allowed, except in the case of the highest class of girls, who have cooking lessons once a week from three to six. In the afternoon there is no tuition in the other classes. During the four and a half hours tuition must not exceed forty to forty-five minutes, and intervals of ten and one of twenty minutes are arranged.

Subjects taught.

The subjects taught are reading, writing, and arithmetic, as much instruction as possible being given from Nature, as will be explained. Geography is only that of Germany, and principally Frankfort, as being the town which a brain not too active would most readily grasp.

Method of selecting Children.

The school is eight years old, and the children are selected on account of being unable to comprehend the work of ordinary schools. On the recommendation of the school doctor and teacher, they are referred to the special physician for the mentally defectives, who

must approve. As a rule two years are allowed, as it is considered a stigma upon a child to be classed as mentally defective, and possibly ranged alongside a number of children who are ultimately destined for admission into the asylums of the State. Education consists of as much practical work as possible and as little systematic.

Manual Work and Physical Exercise.

Each must have six hours of manual work a week, physical exercises twice and a bath once a week. In summer swimming in the River Main is indulged in three times a week, and the serious responsibility of supervising the children devolves upon the teacher.

Accommodation.

In the rooms where tuition is given a floor space of 1 metre square per child is allowed, and every schoolroom has accommodation for twenty-eight children. The desks are of the dual pattern. Height measure is painted on the architrave of each door, and a desk corresponding with each pupil's height is provided. On the ceiling in the lowest form is painted a compass, with directions north, south, east, and west, etc. For articulation in this class each child has a looking-glass given him, so that he can see how the different vowel sounds and consonants are formed. A rather ingenious calculating machine has been invented by one of the teachers. This has different coloured discs, to indicate to a child the particular combinations of numbers which may make up any other number—say, five, made up of four plus one or two plus three. It is certainly rudimentary, but the material in the shape of defective children is likewise so.

Special Room for Models, etc.

A special feature noticeable about this school is a room containing objects to exemplify the various subjects taught. Large painted pictures illustrate carpentry, engineering, shoemaking, etc. Along one side of the room is a case containing stuffed animals and birds. These are not meant as models for drawing lessons, as in other

schools, but as subjects whereby the teachers may illustrate the various lessons As much tuition as possible is done in this way, so as to prevent too great a tax being imposed upon a debilitated brain. Weighing machines, with weights and measures, teach practical arithmetic. A knowledge of colours is gained by means of a number of coloured balls, which are thrown about in play, and the distinctive colours thus recognized. Patterns of electric wire and simple electric appliances are kept here to explain the telegraph and telephone. Models of fruits, strawberries, apples, etc., indicating horticulture, and grain in all forms, agriculture—in fact, every subject is taught from examples or models, so far as it is possible to do so

Special Room for Manual Work.

Another special room is used for manual work. Paper for paper-modelling, box-making, blotting-pads, etc., is supplied to the lower classes.

Carpentry.

In another special room are all the tools for elementary carpentry, which is done by the two highest classes.

School Bathing.

The basement is devoted to the purpose of heating and bathing. As in the case of the ordinary elementary school, the baths are large and capable of accommodating ten children each. There are also dressing-rooms and baths partitioned off for the older girls. The bathrooms are floored and the walls covered with tiles. The temperature of the water is regulated by the bath attendant, who is required to be always present. There is sufficient accommodation for a whole class at one time.

Kitchen.

The kitchen, which is situated on the basement of the girls' school, was at one time a cellar, before being converted. There are four large ovens, at which sixteen children can stand at one time.

Four are supposed to represent a family, which are provided with a complete set of utensils. They have a table, sink, stove, brushes of every kind, crockery, which is china, not enamel ware, as it is considered advisable to teach these girls, even although they are mentally defective, the value of everything they use. A system is in vogue whereby every kitchen day (once a week, from three to six) each child brings one pfennig, representing about one-tenth of a penny, to pay for all breakages. So perfect has been this system that in the course of three years only one plate has been broken, and this, with the date affixed, has been hung up on the wall as a memento. The result is that these pfennigs have accumulated so that the children have been able to have a day of festivity, when their parents were invited. As no seats are provided, the children sit on the tables. Why there should be any difference from the elementary school, where every child has a seat, is rather anomalous. When kitchen cleaning is being done, a gas-stove is used. This is meant to give a knowledge of gas-cooking, so that if a girl goes into domestic service and has to use it, she may not only be able to do so, but to know its value. Everything in the kitchen is of the plainest possible material. On one shelf are samples of all ingredients used in cooking, so that a child may learn that the cheapest article is not necessarily the most economical or most serviceable. Considerable stress is laid upon this method of teaching mentally defective girls, as many of them must go out to domestic service; otherwise it would mean a burden to the parents or the State.

Gymnasium.

The gymnasium is also a fine room, and is provided with all modern appliances.

Notification of Doctor's Visit.

On a prominent place, just inside the main entrance, is a notice indicating the date of the doctor's next visit. This is done for the purpose of giving the parents a chance to attend, if they so desire. After twelve o'clock in the summer and one o'clock in the winter, all children are sent home or to the Kinderort.

Results of Special Training.

Teachers estimate that at least 90 per cent. in the mentally defective classes will become useful citizens and able to earn their own livelihood. This seems a bit too sanguine, unless all those already transferred to the Home for Imbeciles are excluded. A large percentage are really quite fit mentally to do the ordinary school work, but the home influence and environment not being conducive to education, a child is allowed to drift into a condition of somnolent inattention; the brain becomes a quagmire, and if not rescued from this parlous state, must inevitably go to swell the number who are already filling the lunatic asylums and other public institutions.

CHAPTER XX

WIESBADEN

WIESBADEN is a much smaller town than Frankfort, as it contains only 107,000 inhabitants. It is one of the famous watering-places in Germany, and is certainly a very beautiful town. The meaning of the word is "Baths on the Green." About 100,000 visitors come here every year, two-thirds of them being under treatment for rheumatism and other ailments.

Origin of System.

It was the first town in Germany to adopt an organized system of medical inspection. This was inaugurated by Dr. Frederick Cuntz in 1896. The latter is still the statutory head of the department.*

Method of Inspection.

There are in all nine school doctors, who attend one school each. Every child is examined on entrance, and again the following year. After that, it is only necessary every second year, making five examinations in all during his scholastic career. The doctor visits a school about once every three or four weeks, having previously notified the teacher of his intention to do so. At this visit he makes, not only the regular physical examination, but attends to any children referred to him by the head-master.

Polyclinic.

There are no real school clinics at Wiesbaden, but a system is in vogue whereby all children attending the elementary schools may receive free treatment, after being examined by the school physician

* Dr. Cuntz died whilst this work was in the press.

and reported as defective, particularly in eyes, ears, and throat. The parent is first of all notified, as in all the other towns, and if he chooses to bring his child to this polyclinic, advice and treatment are given free of charge. This polyclinic is in no way a public concern, but a private house, rented by half a dozen young medical men, who are specializing in different subjects and anxious to gain a reputation. They attend two or three hours a week each, and give their services free of charge, unless they happen to know that the patient or his parent is in a financial position which warrants a fee.

At first considerable opposition was taken to this clinic, as there are hospitals and dispensaries for the treatment of the poor; but it is understood that this opposition has gradually died down, as the doctors restrict their clinics solely to attendance on those unable to pay. The only remuneration received is 1,000 marks (£50), which is paid by the Corporation for the rent of the house.

They must treat all children from the Volkschule, or People's School, referred to them by the school doctors for special treatment. Some, of course, plead poverty, and are treated free, but this is as far as possible avoided.

Middle-Class School.

The Mittelschule, or school for children a little better off, whose parents pay 42 marks a year for their education, have also a medical inspection. At first the parents and directors in these schools objected to being placed under the same category as the Volkschule, but this prejudice gradually died out, and the same routine is observed as in the others. They, however, are referred to private practitioners for treatment, nothing in the nature of free attendance being given. The schools attended by the Mittelschuler have no baths, as it is generally assumed that they have them in their homes.

Dental Treatment.

A dentist, appointed by the town, visits each school and examines every child's teeth once a year. Should any defect be detected, he gives the parents written notice to bring the child to his surgery for

treatment. One dentist is appointed to each school, and he receives remuneration at the rate of 6d. per head. This amounts to about 800 marks (£40) per annum. A visit is paid to the schools at regular intervals, arranged to suit his own convenience and that of the Rector of the school.

Mentally Defectives.

There is no special school for mentally defectives, but six special classrooms in one of the schools are set aside for the purpose.

Selection of Children.

The selection of these is rather a delicate process. Any children who have been two years in an elementary school and are making no headway are reported by the teachers as unable to keep pace with the others, and referred to a Commission, which consists of the mental specialist, the school physician, the school inspector, and the principal of the school for mentally defectives. This Commission considers the particular case referred to them from all its bearings—the doctors from a medical standpoint, and the teachers from an educational one—and either send the child back to the elementary school, or pass him on to the Hilfschule, or Auxiliary School.

Hilfschule.

This term is probably a better one than "mentally defective," as it merely implies that a child is backward and requires special tuition, although here, as elsewhere, children who are not only defective, but actually imbecile, are allowed to creep in, owing to leakages in the system, influence being used, dictated more by sentiment than common sense.

Gutenberg Schule.

The Gutenberg Schule is the most modern yet built in Wiesbaden, and has all the conveniences to be found in the large schools in Frankfort. The baths are somewhat different, as only a shower is provided for both boys and girls, the latter of whom have each a

separate bath and dressing room. There is also a gymnasium for boys as well as girls. The classrooms are large, airy, and lofty, and the temperature controlled from the corridors, as in Frankfort.

Provision of Food.

On the basement is a room where poorer children may have breakfast, which in Wiesbaden consists of oatmeal soup and bread. The former is given partly on economical grounds and partly on account of the difficulty in controlling the milk-supply. The children like it, and seem to thrive fairly well on it. Milk may be supplied at the milk-shops, on an order from the physician, but it is not taken much advantage of.

Lehrstrasse Schule.

The Lehrstrasse Schule is situated in the poorest locality in Wiesbaden, and that such is the case is clearly shown by the pinched faces and sparkling eyes, indicative of under-feeding.

Class of Children.

In no part of the world—in London, Glasgow, New York, or Boston—can be seen such hunger-stricken faces, even although it is the resort of the nobility and wealthy. The rich American, the English squire, and the classes who frequent these watering-places, scattering their wealth with reckless prodigality, little dream—or if they do, deem it beneath their notice—that cases exist, such as are to be seen here, of children struggling to imbibe knowledge, while the pangs of hunger are gnawing at their vitals. The picture is a pitiable one, yet true.

Charitable Provision for Poor Children.

A society exists which has for its object the curtailment of the spread of tuberculosis. It is composed of a number of charitably disposed people, who annually subscribe a sum of money, which is supplemented by the town of Wiesbaden and the State. A special bacteriological laboratory is run under its auspices, and any medical

men may send sputum and have it examined free of charge. This institute for tuberculosis also assists in the treatment, by means of a special doctor, nurses, and chemists.

The duty of the nurses principally consists in ascertaining the financial position of the families, and, if necessary, assisting them by the provision of milk, food, and even clothes.

The society goes even one better than this by sending a whole family to the country and disinfecting their home. During the long recess children may be sent to a place which is located in the surrounding hills, and has been acquired by the town for this purpose, the expenses of which are partly paid for by private subscription and partly by the Corporation. Suitable cases are recommended by the school physician, and re-examined by a doctor appointed by the Corporation. As there are more applications than vacancies, only the worst are selected.

Besides this home, or sanatorium, a number of families living around let their houses for a similar purpose, and are paid out of the general fund. Special cases may be sent to Orb or Kreutznach. No charge is made to the parents, but every case is thoroughly investigated, and unless it is a deserving one, the application is not entertained.

Method of Inspection in the Schools.

This may be termed a combination process, consisting of a physical examination and routine inspection. The head-master of each school receives notice from the physician that he will attend on a certain day for the purpose. The former receives from his assistants a list of all children whom they consider require special attention, particularly cases of defective eyesight and pediculosis. On a special form is written the name of the child, defect, and the classroom where he is being taught.

Duties of School Physician.

When the physician arrives, he visits the various rooms, and calls out the children whose names are put down for special observation.

In some cases, the complaints being of a trivial nature, no special examination is made, but where it is found necessary they are requested to call at the doctor's room at a stated time.

Provision of Food.

A routine inspection is made, and any case striking him as requiring attention is called out for examination. Further, he may notice palpable cases of malnutrition, due to insufficient food. Unfortunately, a large number must be included under this category, and a special investigation is made of the circumstances of the parents, and a free dinner recommended.

The Corporation has recently found, however, that not only free dinner, but breakfast, is required in a large number of cases, and they are taking steps to try to remedy this somewhat deplorable state of affairs. Children with discharging ears, even if tubercular, are allowed in the school. This is most unusual in Germany. Most of them are under treatment at the polyclinic, and are as a rule in a low condition from lack of proper food. Notwithstanding this, the school physician must also examine them, and fill in the form requesting the parents to see that treatment is procured.

Cases treated at Polyclinic.

This private polyclinic has certain disadvantages, as the doctors who conduct it are, of course, in private practice; and as they can only give two or three hours a week to the work, and there are a large number of cases requiring attention, the examination is often more or less of a cursory character, which is not at all desirable, particularly in cases of defective eyesight. Only in the case of a special request being made are they thoroughly examined.

Physical Examination.

Having seen those children to whom his attention has been specially directed, the school physician then proceeds with his physical examination. This must be done every two years, during a child's school career, and is quite as rigorous as a life assurance

examination should be, according to schedule. Every boy strips to the waist; his chest measurement is taken, his heart and lungs examined, his throat and teeth inspected, and vision tested. There is no ophthalmoscopic examination. Some are apparently physically defective, and their defects, such as spinal curvature, heart disease, rachitis, etc., noted for special exercises, there being no school in Wiesbaden for the physically defective. In many cases children bring certificates from their private physicians. These are duly respected, and any recommendations made by them attended to.

Vaccination.

Vaccination is a very important point in Germany. Every child must be vaccinated during his first year, and also at the age of twelve. No conscientious objector has a chance of airing his grievance, as the police have power granted them by the High Court of Germany to enter the houses and forcibly remove the child to a doctor for vaccination. This is a very decided advance upon the methods adopted in Great Britain and its dependencies, where it is safe to estimate that not one-half the children born are safeguarded from smallpox by means of vaccination.

Infectious Diseases.

In infectious diseases, such as diphtheria, tubes and swabs, procurable at the chemists' shops free of charge, may be sent to the State laboratory for bacteriological examination. This is under the control of a Medical Officer of Health for town and district.

Pediculosis.

Pediculosis causes a good deal of trouble in Germany, as elsewhere. The usual notices are sent to parents, advising them of the condition of affairs and giving instructions for treatment. Should this notice be ignored three times—that is, where pediculi are present on the third examination—the police have instructions to remove the case to the hospital for treatment. The great difficulty is to see that the house itself and the other inmates are free from vermin, and

the power to remedy it can only be enforced by application to the Medical Officer of Health. Should, however, the case be a very bad one, a whole family may be removed to the hospital and the house thoroughly disinfected. This is, fortunately, a very rare occurrence.

Examination of Girls.

When examining the younger girls, as a rule, the older ones are called in to undress them. In the case of the latter—that is, those from twelve to fourteen years of age—the teacher is present during examination. Dr. Cuntz has found that umbilical hernia is rather prevalent among girls in Wiesbaden, not so amongst boys. This is rather a curious coincidence.

Hilfschule, or Auxiliary School.

In the course of his examination the doctor may have referred to him cases who are considered by the teachers to be suitable subjects for the Hilfschule. But the head-master of the latter may refuse to accept the child, as he may have reached the age of twelve before the application is made, and the teacher is very loath to undertake this responsibility.

The Hilfschule in Wiesbaden shows a wretched example of the young generation. In the older classes more than 25 per cent. have a decided squint, several have Hutchinsonian teeth, not a few have rickets, some are plainly future occupants of asylums, and the remainder bear the hall-mark of starvation and neglect.

The younger classes are even worse, idiocy and cretinism being numbered among them. These are plainly only fit subjects for the lunatic asylum, but again the same trouble exists; naturally, it is true, parents do not and will not realize when their children are hopelessly imbecile, and owing to weak-mindedness on the part of the authorities, who seem unwilling to adopt stringent measures, they are not debarred from entering an auxiliary school. This is the worst example yet seen, either in Europe or America.

Neglected Children.

That many of the children in Wiesbaden are suffering from neglect is quite apparent, even more so than in any town in Europe. General practitioners have raised objection to the polyclinic, which was really only established for the treatment of those who would otherwise be neglected.

In the majority of instances medical attention is only required on account of insufficient feeding. This is one of the most important problems which require solution, not only in Germany, but in other parts of the world. Wiesbaden is a flagrant example of children asking for bread and receiving a stone in the way of education.

We have innumerable carping critics who talk about parental responsibility and object to the State assuming parental duties. This must be regarded as a dull, meaningless platitude when one sees a child sitting in a classroom doing mental work, and at the same time starving.

Such a sociological problem is not to be solved by a few city magnates sitting around a table, making suggestions for the prosecution of the parents. In many instances the latter do not realize that they have any responsibility whatsoever, and it does not influence them in the smallest degree either to prosecute or threaten prosecution. In the meantime their children are starving, compelled by law to sit at a desk for a certain number of hours a day, probably an hour or two of gymnastic exercise, and then have to walk about till late at night with empty stomachs.

Many sociologists ask the question, "Why do you spend pounds a year upon the education of the children, and duplicate this expenditure by the upkeep of hospitals and sanatoriums, when these need not exist if during a child's school life sufficient attention were given to the physical, as well as the mental, pabulum?" That such is the case is clearly exemplified not only in Wiesbaden, but in many large cities throughout the civilized world.

CHAPTER XXI

STRASBURG

Description of Town.

STRASBURG, the capital of Alsace-Lorraine, which was captured from the French during the war of 1870, was the centre of many important conflicts. One of the palaces of the Emperor Napoleon is a notable landmark in the city, some of whose oldest buildings were reduced to ruins during that memorable campaign. There still remain, however, some fine old structures and antique fortresses, reminiscent of its ancient splendour. Particularly noticeable is the beautiful Minster, or Cathedral, about 450 feet high, carrying its memories back to the time of Goethe and Wagner, whose names are inscribed in stone over 200 feet above the street level.

The city is practically divided into two parts—one the Strasburg of old, with its narrow winding streets and overhanging dwellings; the other, with its new University, the Emperor of Germany's Palace, the Museum, wide streets, and open squares, all typical of the modernizing effect of the advance of civilization. Prominent among them are the new city baths, which are situated alongside the dental clinic, a new building now (1909) in course of erection. These baths are of all conceivable variety, from the cheap but efficient, at 40 pfennigs, or $4\frac{3}{4}$d., up to the lavish comfort of a gentleman's home, at 1 mark, about 1s.

Besides these are swimming-baths for men and women, a splendidly-equipped Turkish bath, and even an elaborate arrangement for bathing dogs.

Dental Clinic.

It is a matter of regret that it does not fall to the lot of many pioneers engaged in a work for the benefit of their fellow-creatures to enjoy the fruits of their labours, as is now the proud position and privilege of Professor Jessen, of the city of Strasburg.

Origin of Clinic.

Nearly twenty-five years ago, as a lecturer in the University, he became impressed with the general indifference among people with regard to the care of the teeth, and the more serious position of affairs—the knowledge that a large percentage of illness and disease is directly traceable to decayed teeth. How to impress this important fact upon the city fathers and to popularize dental treatment among the masses has been the work which has engaged his attention for so many years.

Starting with the premise that fully 90 per cent. of children of school age suffer from bad teeth, that the physical health and happiness of children depend entirely upon the condition of their bodies during the growing stage, and many children's ailments being the result of decayed teeth, it must be freely admitted that dental treatment cannot be overestimated. He started a University clinic many years ago, at which all children attending school could receive dental treatment free of charge.

Gradual Progress.

The demand upon his time eventually became so great that it was found quite impossible to cope with the increasing work, and after continued representations had been made to the Corporation, it at last dawned upon them that it was necessary to provide a special building for dental work. This was in 1901, and it is quite inadequate to supply the increasing demand made upon the time of Professor Jessen and his assistants.



FIG. 35.—CHILDREN IN THE WAITING-ROOM AT STRASBURG DENTAL CLINIC.

Report on Results obtained.

According to a report recently issued, the benefits derived are laid down as follows:

1. Absentees from school through toothache have strikingly decreased.

2. The work of the pupils is of a higher standard.

3. The general state of health of such pupils who habitually suffer from toothache has distinctly improved, in consequence of dental treatment.

4. The wasting of school time by attending the hospital was reduced to a minimum, as the majority of children visited out of school hours.

New Dental Clinic.

The progress made and the improvement in the physical condition of the children generally, the decrease in the number of cases of tuberculosis, has been so clearly demonstrated that the city Corporation, which at one time opposed anything in the way of such a drastic reform as a children's dental clinic, have at last consented to supply Professor Jessen with a new and thoroughly up-to-date building for the purpose. This, which is now (1909) in course of erection, will be completed in 1910, and will prove a permanent monument to a man who has striven against great odds and a Corporation keenly prejudiced against him, and who have at last been convinced that his convictions were built upon a sound basis, and the culmination of his ideal was really one for the betterment of his fellow-citizens, and not self-aggrandizement.

Building.

In the building at present in use there is a large waiting-room, but it is much too small to accommodate all the patients, and the courtyard at the back is utilized for the purpose.



FIG. 36.—IN THE OPERATING-ROOM OF PROFESSOR JESSEN'S DENTAL CLINIC. THE PROFESSOR IN THE BACKGROUND.

Children treated.

Many of the children are accompanied by their parents, but the majority come by themselves, and it is surprising to see little tots of three years of age walking up quite boldly, but with a certain amount of backwardness, straight to the operating-chair. All children from three to six years of age who attend the infant school at Strasburg are under obligatory dental treatment, and no child is allowed to go into the holiday colony without a certificate from the dental hospital to the effect that the child's mouth is in a perfectly healthy condition.

Equipment.

There are four operating-chairs, and Professor Jessen has four assistants, three of whom are ladies. The rooms are well lit, but low in the ceiling; the equipment, however, being up to date, compensates in a great measure for the lack of suitable accommodation. Aseptic glass cases carry the instruments; sterilizers cleanse everything after being used, a clean sterilized cup being given to each child. Around the walls are illustrations of teeth in all their forms; even in the waiting-room are instructions for the care of children's teeth. Everyone who comes to the clinic receives a tooth-brush free of charge.

Temporary teeth are not extracted until they are evidently in the way of the permanent. All decayed, whether temporary or permanent, are carefully filled when at all practicable, and it is not at all uncommon to see small children of three or four years of age with many of their teeth filled. Conservative dentistry is the order of the day. No tooth is extracted unless it is absolutely necessary, no matter how great the decay, extractions being the exception, not the rule.

Method of Admission.

Children are admitted with an order from the school physician, stating that their teeth are defective. The child is then examined by the dentist, who fastens a ribbon on the coat or dress. This ribbon is in three different colours—white, the emblem of purity,

represents sound teeth; red, to represent blood, if extraction is necessary; and if filling be required, a grey one is used, to represent decay.

Procedure.

Each child carries a card, which has been sent to the parents, notifying them that the teeth are defective and require attention. He brings this card to the clinic, where he is examined, and a ribbon fastened on his coat; passing on to the clerk, his name and the result of the diagnosis is entered in a book. He then goes on to the operator, who fills or extracts, as the case may be. A card is filled in, with date when attended to, and also when he must return, and on the back of it are instructions as to the care of the mouth and teeth, and a record is kept at the clinic of every child attended to.

From the nursery schools alone—that is, for children under six years of age—no less than 4,000 are treated at the clinic every year. The object aimed at is that every child who enters an elementary school should do so with a sound mouth, and this ideal of perfection is gradually being realized, even although it is quite noticeable to see a large percentage of children in the waiting-room anæmic and badly nourished. Some of these cases have been caused through the teeth being neglected, owing to inability to properly masticate food.

The attendance of the children being voluntary, there are still a few parents ignorant enough to taboo the system; but these misguided individuals, fortunately for their offspring, are yearly becoming fewer, as the results are too satisfactory to admit of adverse criticism.

Method of Treating Teeth.

Even teeth in a very advanced stage of decay are filled. First of all, they are thoroughly cleaned out of all material which is in any way septic, then a preparation known as "Gedugen" (Scherberkobath) is placed in the hollow. At the end of eight days this is removed, the nerve being dead, and the cavities in the roots are filled with triopaste, a preparation, as its name implies, composed of three pastes, and manufactured in Basel. Gutta-percha is then used to

close the hollow, and the tooth crowned with copper amalgam, which is considered by Professor Jessen to be most suitable for children, and is very economical. The great objection to it is that it is black—not a very serious one when the question of utility has to be considered. In the front teeth an artificial enamel, coloured white, is used instead of amalgam.

The confidence reposed by children of all ages in these dentists is really to be admired. A batch of ten comes up at one time, each carrying a card, and as he passes the dental chair opens his mouth wide for inspection. Fear of an instrument or tongue-depressor is comparatively unknown.

Anæsthesia.

Another point is that no anæsthetics whatsoever are used—no cocaine, gas, or chloroform. "The children must learn to bear the pain," said Dr. Jessen; "and our extractions are so few and the cases so numerous that we have no time to waste on anæsthetics." This doctrine seems, in these enlightened days, hardly to coincide with other dentists' ideas, but no child seems to dread the operating-chair.

Hæmorrhage.

Should bleeding occur, the child is instructed to return to the clinic for attention, and the socket is stopped with stypticin, a gauze prepared with perchloride of iron.

Record of Cases treated.

During the first year of the clinic, 1901-02, Dr. Jessen kept a record of 4,000 children's mouths, with the object of showing the benefit of the clinic, and also to give the authorities a clear conception of the enormous amount of decay. The following are the figures:

Temporary (falling out)	6·86
Extracted	3·92
Roots carious	2·93
Carious	24·11
Filled	·30
Sound teeth	61·88
Total	100·00

The above 61·88 does not represent the percentage of children with sound teeth, but merely the actual percentage of teeth among the 4,000 which were really sound. These figures are rather appalling, but are not one whit worse than can be found in other parts of the world.

This clinic of Professor Jessen's is the pioneer of a great revolution in dentistry. For a number of years, particularly in Australia, radical dentistry has been the watchword; but it is to be hoped that a new era is gradually dawning, and that children all over the world will come to regard their dentists, as in the case of Strasburg, not with feelings of fear and dread, but with a confidence born of continuous association such as should be displayed between pupil and teacher.

It is unnatural to sacrifice the means of mastication, the heritage of every child, and it is a duty to prevent his teeth from decaying and build them up in as natural a manner as possible.

The conservative dentist realizes that no artificial teeth fitting ever so well can compensate for those provided by Nature.

Professor Jessen has come to regard the children, not as patients, but as pupils, and every opportunity is taken of teaching them the value of masticating the food and the dangers which accrue from neglect. That the results of his labours and battles against prejudice are realizing a bountiful harvest is clearly indicated by the number of dental clinics which are being established in various parts of Germany. His name must inevitably go down to posterity as the pioneer of the system whose adoption must eventually become world-wide.

Medical Inspection in Strasburg.

This is precisely the same as in other parts of Germany, and it is quite unnecessary to go into details. The Thomas Schule was visited, and the whole arrangement was found to be absolutely in accord with other newly-built schools of Frankfort and Wiesbaden.

Benefits of Weekly Bathing.

The system of weekly bathing which is in vogue everywhere has, according to several medical authorities, gone a long way towards the diminution of contagion throughout the whole of Germany. Diseases of the skin are noticeably uncommon. Cases of eczema or impetigo are not excluded, and the average attendance being over 95 per cent., there would be no difficulty in readily recognizing these if they existed.

Poverty in Germany generally.

Reference has been made to the poverty depicted in the faces of the children at Wiesbaden. It must be distinctly understood that the latter is by no means the only place in Germany where this is particularly noticeable. From whatever the cause, it is not politic here to say, but the fact remains that much more distress, in the shape of abject poverty, as evinced by the pinched faces, eager, hungry expressions, and sparkling eyes, exists in enlightened Germany than in most other civilized countries. In the East End of London (Whitechapel), a district mostly inhabited by German Jews, the children look well nourished and happy.

In New York, down below 12th Street, where teeming thousands pursue their daily avocations, amongst squalid and overcrowded streets and tenements—even here the children look well fed; but in the larger towns of Germany, where palatial buildings are erected, with wide corridors, sumptuous bathrooms, airy classrooms, and efficient teachers, the hang-dog look, the pained expression, the long lean necks, with muscles like ribbons, and the tired, weary gait, indicative of under-feeding, are only too patent to the most unobservant.

CHAPTER XXII

ZURICH

ZURICH, situated in a picturesque position on the borders of a lake bearing the same name, has been identified with the system of medical inspection for many years. The chief officer is Dr. Kraft, who holds this position for the Canton of Zurich, which is one of the thirty cantons into which Switzerland is divided.

System of Medical Inspection.

The system has been in vogue for a period of nearly twenty years, but it is only during the last five that Dr. Kraft has extended the scheme by the introduction of many new schedules and forms, which have so far not been adopted in other places. He visits each school and examines every child once a year. This is rather of the nature of the American system of routine inspection, but, as in the case of German schools, a thorough physical examination of every child must be made on entrance. The form used contains a complete record, from the beginning of his scholastic career until the end; and should he enter a secondary school, a form similar in character is also employed. During the rounds of inspection, should any attention be called to a defect, he instructs the teacher to give the parent notice to attend in his office, accompanied by the child.

Defective Eyes.

In a case of defective eyes the child is referred to a specialist, who examines him or her on an order being produced from the school doctor as follows:

CITY SCHOOL, ZURICH.

EXAMINATION OF THE EYES.

....., pupil of Class I. of the City School, Zurich (teacher), must present himself on at , before Dr., to have his eyes examined. He must be accompanied by some adult member of his family. The teacher is urgently requested to see that his pupil appears for examination at the time appointed.

In the name of the school committee,

School Doctor.

N.B.—This notice is to be handed to the pupil in good time and to be produced at the examination.

Defective Ears.

A similar form, couched in the same language, is used in the case of defective ears. The bottom half of this form contains the report of the specialist, and is torn off and pasted in the book containing the child's record, so as to be used, if necessary, for future reference. The specialist sends another form to the optician, if spectacles are considered necessary. These are supplied free by the Corporation. The forms are duly filed, to be referred to at the examination of the child's eyes when he leaves school. Evidently very great attention is paid to the condition of the eyes and ears of school-children, much more so than to any other physical defect.

Teacher's Examination of Children's Eyesight.

Should the Schularzt, or school doctor, be unable from lack of time to examine the eyes of all children, he instructs the teacher to do so, the following directions being observed:

To all the teachers of the classes of primary schools the following rules are to be observed with regard to the examination of the eyes:

1. The chart for eye-testing is to be fixed in one of the most favourable places for light. If any room should not be adapted for this, then the testing must take place in another room which is more suitable.

2. The chart must be perfectly vertical and firmly fixed. It is recommended to use a counting-frame with a stand, and to fix the chart between two iron rods. In this way the choice of a favourable place for light is made considerably easier. The chart should, moreover, have its lower edge about 1½ metres above the ground.

3. The child should be placed at a distance of 5 metres from the chart, and in such a way that the eye looks straight in front at the chart, and not sideways.

4. Each eye must be examined separately. The eye not being examined must be completely covered with the hollow of the hand. In doing this care should be taken that the hand be placed slanting from below, from the outside towards the inside, and that the finger tips reach the top of the forehead. There must be no pressure on the eye, and everything must be avoided, such as rubbing, which irritates the eye, and has an unfavourable influence on the result of the examination.

5. The direction of the three arms of the E's is to be indicated solely by movements of the arms—upwards, sideways, right and left, and downwards.

6. A child who at the distance of 5 metres can judge the direction of the arms of the E's in row five correctly is considered to have normal vision. At least three different directions must be indicated correctly by suitable movements of the arm. Children whose movements are wrong or uncertain are entered on the lists as abnormal.

The examination of the eyes of every child on entering school must be made by the Schularzt, as this is considered to be the most important.

Parents' Application for Exemption of Child from Certain Duties.

Should the parents of any child desire that he should not attend school, a special application must be made and the child examined by the Schularzt, on whose report the President of the School Board

for the district must give his approval or otherwise. The form used is the following:

SCHOOL INSPECTION OF THE CITY OF ZURICH.

To the Chairman of the District School Board.

Supported by the doctor's certificate on the back of this form, I beg you to exempt my {son / daughter}, born, of Class, Teacher, School, for the whole period of school life, or weeks from to, from instruction in gymnastics, singing, manual work, drawing, etc.

Signature.....

Address.....

Footnote.—This form must be used for every request for exemption of a pupil for a definite time, or for the whole period of compulsory education, or for separate subjects, and is to be sent to the Schularzt, to be reported on and forwarded. Doctors are requested in the certificate to fill in those spaces the headings of which have reference to the subjects for which exemption is desired. The forms may be obtained from the Schularzt or the committee.

The headings for medical certificates are as follows:

1. Hereditary complaints.
2. Previous illnesses.
3. Cranial formation.
4. Brain—nerves.
5. Eyes—defects in refraction, etc.
6. Ears.
7. Mouth, teeth, nose, palate, and speech.
8. Thoracic and abdominal organs.
9. Vertebral column and extremities.
10. General constitution—constitutional diseases—mental capacity.
11. Skin diseases—parasites.

Proposals *re* special treatment in school exemption.

Schularzt.

(Space is also left at the bottom of this form for the decision of the chairman of the District School Board.)

Schoolmaster's Application for Child's Exemption.

Should any schoolmaster consider that a child is not in a fit state to attend school, he may make application under a similar form.

EXAMINATION OF PUPILS—TEACHERS' NOTICE.

The school doctor is requested to examine (giving full particulars), and to make the necessary arrangements to exempt him or her { for (*time*) / from (*subject*) }

Cause of notice (sickness or defect).....

Strike out what is not required.

Footnote.—This form is used in all cases when for any reason a medical inspection by the school doctor is announced, especially when delicate or diseased children are put back in their first year. When properly filled in, it is to be forwarded direct to the school doctor.

On the back of this form are the same headings for doctor's notes as on the previous form, and on the opposite page space for the decision of the Chairman of the Board.

Transference of Child to any Institution.

Should a parent desire to have a child transferred to any institution, a certificate must be given by the Schularzt regarding hereditary complaints, previous illnesses, and present condition of health. It sometimes happens in the case of children in the Kindergarten that a parent or teacher considers it advisable that he or she should remain there for another year before being transferred to the primary school: such child must be examined by the Schularzt and a certificate given.

Examination of Child by Specialist, on Account of Physical Defect.

When a child is referred to a Specialist, certain questions are answered by him, and the opinion of the Schularzt is based on these replies in his report to the School Board. This does not refer particularly to eyes and ears, but to any other physical defects. All orthopædic appliances are supplied by the Board free of charge.

Neglected Children.

In the case of neglected children a full investigation is made before entertaining any application from a teacher. A long form must be filled in, and a thorough examination and report made by the Schularzt and referred to the School Board, who exercise a sole veto as regards the action to be taken.

Recess Colonies.

In Switzerland, as in Germany, a system of recess colonies has been established by the different Corporations, so that children who are, in the opinion of the schoolmaster and doctor, in a condition of health below par may receive the benefit of a change in the mountains. A special committee selects the most deserving cases.

Notification of Parents for Child's Attendance.

When the Schularzt desires a child to attend at his office, a notice is sent to the parent as follows:

NOTICE TO PARENTS.

Mrs., residing, is herewith requested to present herself with her child before the school doctor, at o'clock, to have the child medically examined.

Reason for request

Penalty of a fine for disregard of this notice.

Verminous Children.

Verminous children seem to be as numerous in Switzerland as in other countries. Should pediculosis be detected, a notice is sent to the parents advising them of the fact, and giving them instructions as to the best means of eradication.

DIRECTIONS FOR THE MEANS OF ERADICATION OF VERMIN.

To

When your child was examined, it was found that his head was affected with vermin. As serious illness may be caused in consequence of this, and, moreover, there is danger of transmission of the

vermin to others, a thorough cleansing process is necessary, in the interest of your child, of your family, and of the whole school. In case you do not prefer to consult your family doctor, the following mode of treatment is recommended to you. (Here follow minute directions for treatment.)

If after five days a re-examination shows that the head of your child has not been adequately cleaned, then an official cleaning must follow, in accordance with Article 3 of the Regulations. For the purpose of carrying out the above instructions, your child is exempted for attendance at school from to

In the name of the School Board.

.....

Schularzt.

At the same time a notice is sent to the teacher, relieving the pupil from attendance at school, as follows:

NOTICE FOR ERADICATION OF VERMIN.

We herewith inform you that the guardians of the pupil, Class, School, Teacher, have received notice to thoroughly clean the child's head, which is affected with vermin, and in order that these instructions may be carried out, leave of absence from school has been granted from to

For the Education Department,

Should the children continue to be neglected through inattention, the nurse calls on the parents, and endeavours to persuade them of the necessity for treatment. If her instructions are ignored, prosecution follows, but this is only done as a last resource.

Defective Teeth.

Defective teeth are now receiving special attention, and every child has instructions given as to the proper care of mouth and teeth, and a special clinic has recently been established for treatment. As in other places, it was with great difficulty, and only after repeated representation, that the authorities granted the present modest building for this purpose. It is by no means pretentious, being formerly a dwelling-house, and was transformed at a very minimum cost. One dentist and two assistants endeavour to cope

with the work, which is much too heavy for the amount of remuneration allowed. No child is sent away until the mouth is found to be in a satisfactory state. Last year 12,000 were treated in thirteen months, or about an average of forty a day. Every precaution as regards sterilizing of instruments, cups, etc., is taken. Children are admitted on presenting a card, signed either by teacher or Schularzt. Date, instructions, etc., are precisely the same as in Strasburg.

Notification of Infectious Diseases.

In the Kindergarten, being the school where most cases of infectious disease occur, a special report must be forwarded to the Schularzt by the head-mistress every week. This is under the following headings:

Number of children.

Scarlatina, Measles, Diphtheria, Chicken-pox, Smallpox, Mumps, Whooping-cough, Epidemic Tetanus, Typhoid Fever, Other Diseases. General remarks.

Mentally Defectives.

Mentally defectives require a full and exhaustive report, and in the majority of instances are examined two or three times before being sent to the Auxiliary school. A good deal must, of course, depend upon the report of the teacher, the family history, personal surroundings, etc. These investigations are all made and reported to the Schularzt, on whose decision a child may be recommended to the special school.

The mental capacity is gauged in a manner similar to that already referred to in "The Pulteney," London, and seems to be a very efficient way in which to estimate it.

Form of Application for Admission to Special Classes.

The following is the form employed by the Education Department for their special classes, with particular reference to the mentally defectives:

EDUCATION DEPARTMENT OF ZURICH.

Special Classes.

No.

District *Class*

School *Teacher*

Personal record of

Born *in*

Questions I. (1 to 4), II. B (*b*) (1 to 4), and IV. to be answered by the teacher.

I. Family History.

1. Name and occupation of parents or guardian.
2. Native parish.
3. Present address.
4. Religion.
5. Domestic and financial circumstances of parents or guardian, number of children, living or deceased, total number of persons in the house, number of rooms, rent of house, and income.
6. Physical and mental condition of parents, ancestors, and relatives.
7. Physical and mental condition of brothers and sisters.

II. Personal History.

(A) physical development.

1. Prenatal life; birth and upbringing in early life.
2. Time and manner of teething, and first attempts at walking.
3. Development of the activity of the senses.
4. Illnesses, physical defects, accidents, and their consequences for body and mind.

(B) mental and moral development.

(*a*) *Before School Life.*

1. First perception of mental weakness.
2. Conjectured direct cause of mental weakness.
3. Development of the power of action and imitation.
4. Time of first attempts at speech and its development.
5. Peculiarities in mental and moral development.

(*b*) *During School Life.*

1. Exact time of entrance into school or seminary.
2. Time when sent to a lower class.
3. Classes attended, terms present.
4. Opinion of previous teachers *re* application, progress, mental development, reading, writing, and memory power.

III. Inspection and Examination before Entrance.

(a) physical condition.

1. General physique and appearance.
2. Size and formation of head.
3. Organs of senses.
4. Perceptible symptoms of disease, signs of degeneracy, and other abnormal conditions.

(b) mental and moral condition.

1. Attentiveness and industry.
2. Powers of perception.
3. Thinking power and memory.
4. Defects of speech.
5. Attainments and accomplishments.
6. Good as well as bad mental and moral peculiarities.

IV. Has the Child been previously recommended for the Special Class?

Further remarks

(*Signed*)

Schularzt.

Stutterers.

Very few towns have given this class of defectives attention, but the city of Zurich seems to consider them of special importance, as a long schedule has to be filled in by Schularzt and teacher. This somewhat resembles the form used by insurance companies, and contains first of all family history, and then a full report of the physical examination. Following that are questions relating to speech, and finishing up with a report, which must be signed by Schularzt and teacher. Further than this, printed instructions are issued for the treatment of stutterers.

I. Instructions for Stutterers at Home.

1. The stammering or stuttering child is to be guarded against mental and physical strain, as well as against fright, terror, or other excitement.
2. He must be fed and live in accordance with the laws of health, in particular—

(*a*) Moderation in eating and drinking, but wholesome and sufficient food.
(*b*) Strict abstinence from beer and other alcoholic drinks.

(*c*) Sufficient sleep; early retirement to rest.
(*d*) Careful watching of the child, to guard against all inclinations that are detrimental to health.
(*e*) Spending much time in the open air, but guarding against catching cold.

3. The parents must not allow the child to be teased and ridiculed because of its defective speech.

4. In the early stages of its treatment for stuttering the child's conversation at home is to be limited to what is absolutely necessary.

5. For the time the child must be allowed to say all that it is obliged to in a whisper, or at any rate in a low tone.

6. As soon as the child has sufficient confidence, it should be allowed to read aloud, first out of its school reader.

7. It should, with kindness, be urged to say everything in the manner prescribed by the course of treatment.

8. As soon as progress in the power of speaking is observed in the child, the parents may commend him for it, and not scold him if he should at times speak worse.

9. The parents must, however, be firm in requiring the child to do its duty and not to be careless in speaking. By making the fulfilment of its desires and requests depend on the proper observation of the rules set down in the course of treatment, parents can induce the child to speak according to rule. If a child always speaks without stammering to members of his own family, he should also be afforded an opportunity to prove his ability to speak before strangers—*i.e.*, in giving messages and orders, doing shopping for the family, etc.

10. The most important rules of speech which the child must be taught to observe in the home are the following:

(*a*) I will speak slowly and quietly.
(*b*) I must not speak too loudly nor too softly.
(*c*) I must know what I am going to say, and think only of that.
(*d*) I must take a short, deep breath before beginning a sentence.
(*e*) I must sit or stand still and straight when I speak.
(*f*) I must dwell on and draw out the first syllables of my words and those that must be accentuated.

Note.—When the child violates any of these rules, he must be made to repeat it in the way prescribed.

11. Even when the child has been discharged as cured, parents should watch over him in accordance with these directions, so as to guard against a relapse.

II. Brief Instructions for the Treatment of Stutterers at School.

1. The teacher should treat the child suffering from a defect in its speech with sympathy and kindness, and guard against his being teased and ridiculed by his schoolfellows.

2. When he begins to take up the course for stutterers, he should not for the first few weeks be asked to answer questions individually, but only to join in simultaneous oral work.

3. After this he should be first induced to read, and when reading, as also subsequently in answering questions, he should for a time, if necessary, be allowed to speak in a whisper, or at least in a low tone.

4. The child should be, with kindness, reminded and encouraged to speak in school as in the course, and be given time to do so. (When the whole class is listening, the child may not always succeed in the first attempt, but the teacher should try and know how to guard against his feeling ashamed because of this.)

5. Even the slightest improvement in speaking is to be kindly recognized, so that the child's self-consciousness may increase and his mental condition improve. When he becomes more confident in his speech, he should have as many opportunities as possible to take part in the oral work of the class.

6. He must be guarded as much as possible against mental emotion, such as fright, terror, vexation, and other excitements.

7. When the child is desired to answer, and is willing to do so, the other children of the class must not be allowed to look at him, but must behave as they would if any other class-mate were answering. They must not make fun of the peculiar way in which he is bound to speak at first, nor imitate his speech out of school.

8. In reading, as in speaking, he must take breath at the right time. In reading, the punctuation marks which denote the longer pauses will regulate this, to which strict attention must be paid.

9. In general the teacher should see that in school the child speaks according to the following rules, which should be explained to and impressed upon him in the course of treatment:

(*a*) I must speak slowly and deliberately.
(*b*) I must not speak too loudly nor too softly.
(*c*) I must know what I am going to say and think only of that.
(*d*) When I speak I must sit or stand quite still.
(*e*) Before I utter anything I must take a short, deep breath.
(*f*) I must draw out the vowels especially in first syllables and accented syllables and have distinct movements for my mouth for the vowels—*i.e.*, I must open my mouth well for A (pronounced AH in German), make it round for O, pointed for U (pronounced OO in German), broad for E (English Ay), and still broader for I (pronounced EE).

10. The nature of the defect of stuttering is such that sickness, growth, and other development of the child are favourable to a relapse. These, however, teachers and pupils can prevent by conscientious attention to the above directions even after the child has been discharged from the course of treatment.

From the foregoing it will be readily seen that Zurich is by no means behind other places in the matter of medical inspection.

Its schools are of the most modern description, quite equal to those in England or Germany, and vastly superior to the majority. The children look much better cared for than in either Germany or England, but this, probably, may be attributed to the fact that very little poverty exists, and that social distinction and equality are not so clearly defined, according to the status of the school. It is, however, very noticeable that even amongst the children referred to the school medical officer for special examination the indications of insufficient feeding are not marked.

The system of medical inspection in the schools of Switzerland is not quite as efficient as in some countries, but the expense entailed is very small in comparison, and the results obtained cannot be said to be any other than satisfactory.

CHAPTER XXIII

GERMAN IMPRESSIONS

School Bathing.

THAT Germany is well advanced in the matter of installing proper bathing arrangements in its schools is clearly demonstrated everywhere. The system of a weekly bath for every child attending school cannot be too highly recommended, provided it is carried out in a thoroughly efficient and systematic manner. By so doing it must commend itself to all school authorities. The arguments in its favour are quite incontestable. An Englishman generally regards his morning tub as part and parcel of his daily routine of living, and it is rather surprising that educational bodies in Great Britain have not so far recognized the weekly bath as a necessary item in school hygiene. Cleansing of the body must tend to a diminution in the spread of skin disease and pediculosis, provided those suffering from contagious disease are not allowed in too close proximity to children not affected.

Wiesbaden.

At Wiesbaden the troughs are about 16 square feet in area and a foot deep. Four boys can be bathed back to back in each. They are all of the douche pattern. As regards results, Dr. Cuntz reports: "In school bathing much depends on the interest and energy displayed by the class teachers. The general results have been very satisfactory. All teachers and medical officers affirm that the appearance of the children is fresher and healthier, and that the air in the schoolrooms is greatly improved, especially in the older

schools, where the ventilation is less efficient than in the more modern ones. The condition of underlinen, stockings, etc., has improved to a remarkable extent. The children show a distinctly increased capacity for learning after bathing. *We have very little vermin in our schools—about* 1·8 *per cent.* Although this is due principally to our thorough system of school inspection, the baths have no doubt contributed to the result."

This expression of opinion from Dr. Cuntz, the pioneer of medical inspection in Germany, is of the utmost value and must

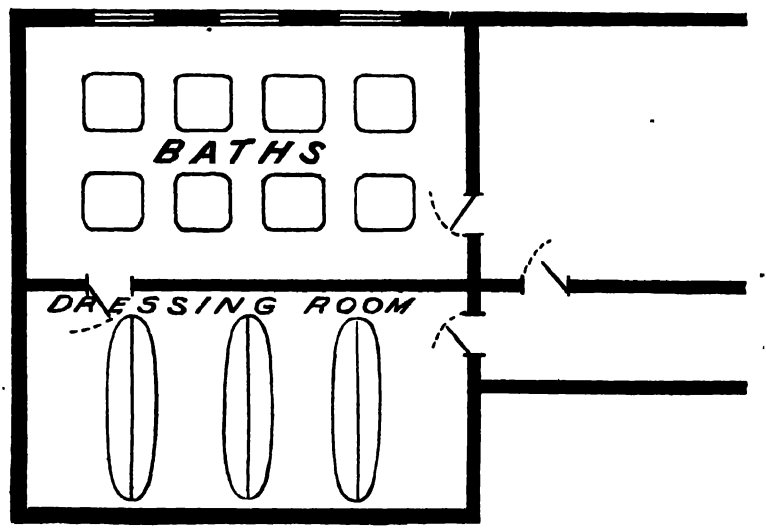


FIG. 37.—SKETCH OF BATHS AT BLUCHERSCHULE, WIESBADEN.

be treated with the greatest respect. Contagious disease of any kind is very uncommon, judging by the percentage of non-attendances, which are extremely few. The "thorough system of medical inspection" just mentioned is by no means better than it is in London, if, indeed, it is as good, although skin disease and vermin are not nearly so prevalent in Germany, and it is quite probable that the comparatively few non-attendances can be credited in a large measure to the excellent provisions made for a weekly bath.

Frankfort-on-Main.

The arrangement at Frankfort is somewhat different from that at Cologne, and the rough sketches made by Dr. Kerr will show the general arrangement. Here, again, the authorities are very decided about the advantages gained by each child having a weekly bath. "The appearance of the children is fresher and healthier, the school air has improved, and greater attention is paid to cleanliness gene-

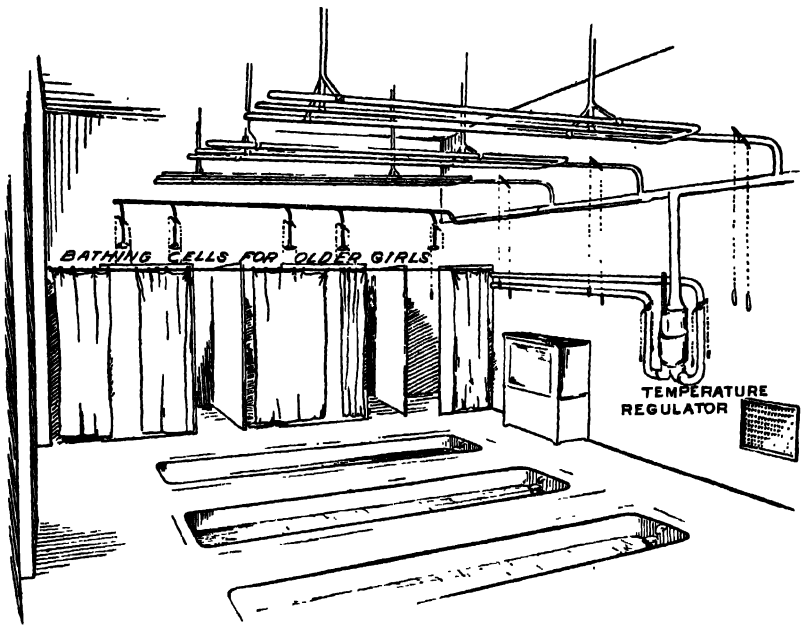


FIG. 38.--ROUGH SKETCH OF BATHS AT FRANKFORT.

rally, and there is great improvement in the children's underclothing. The decrease in vermin is principally attributed to other measures. The baths have contributed in some degree to increase zest and capacity for work."

Munich.

At the Fluhrstrasse Schule the arrangements are again somewhat different from the previous two. The dressing-room consists of

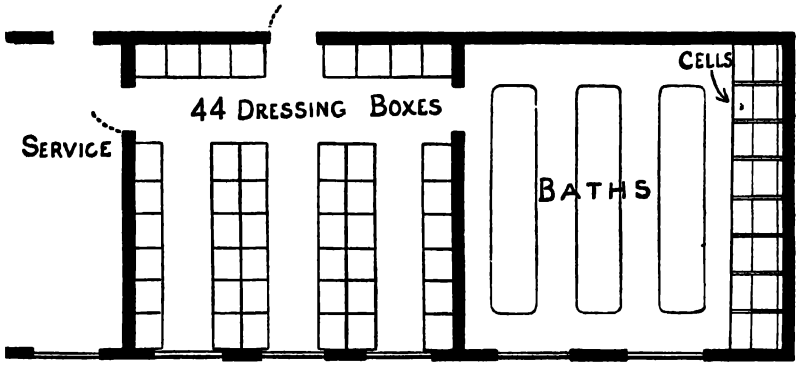


FIG. 39.—MUNICH, FLUHRSTRASSE: PLAN OF SCHOOL-BATH.

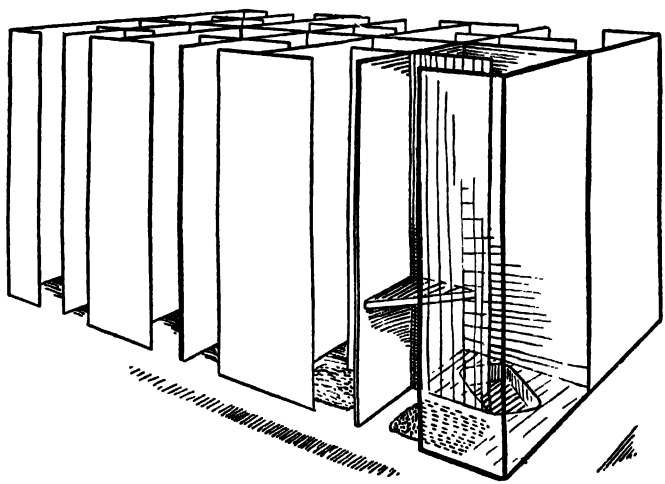


FIG. 40.—COLOGNE: ZWIRNERSTRASSE BATHING-CELLS.

forty-four boxes, all partitioned off. There are three bathing-troughs, 3 feet wide, 14 feet long, and 1 foot deep. At the end

of the bathroom are eight douching cells over a common trough. Each cell has a stone seat and a rose douche over it, with a curtain in front.

Cologne.

The general arrangement here is very similar to the others, but the system of cells is different. Each is in two parts—an outer one for final underclothing, and an inner one for bathing. The divisions between the cells are of corrugated iron. The remarks of the school authorities here are well worthy of note:

"The influence of the school baths in promoting cleanliness is very marked—not only with regard to the condition of the body, but also of the clothes. An increase in the children's capacity for work has also been observed. The self-respect of the children has been raised, as they take a pride in the cleanly appearance of themselves and their schoolfellows. The public are grateful for the introduction of school shower-baths. The influence of the habits of cleanliness inculcated at school makes itself felt long after school life, and has also in many cases favourably affected the home life of the parents."

Medical Inspection in the Schools.

The system which is employed in German schools is practically on all-fours with that recommended for England, but it has not yet been made compulsory. Originally starting in Wiesbaden and Nuremberg, the beneficial effects have been so clearly demonstrated that it has now become almost universal. The control of each town is under a distinct local authority, which must levy a rate commensurate with the expenditure incurred in each place. The form for inspection purposes is the same all over Germany, but no pecuniary assistance is given by the Government, as in England.

Vaccination is absolutely compulsory. It is not a matter of punishing the objector, but a strict law empowers the police to take a child without the parents' consent to a physician and have him vaccinated.

Discipline.

Discipline in the schools is almost perfect. In many places the children regard their teachers with a respect which almost amounts to one of fear and dread. This is exemplified while the school medical officer is making his physical examination. One word is sufficient for half a dozen boys to immediately strip off their clothes.

Vision Testing.

Vision testing is very rudimentary, and no proper examination of the eyes seems to be required. The whole process of medical examination is not nearly so perfect, nor is it as thorough, as in the London schools. Whether this can be attributed to a certain extent to the fact that a large number of the London men have been newly appointed, and the old adage "New brooms sweep clean" may be applied, or to having a better class of school medical officer—one accustomed to make a thorough examination in every case—it is difficult to say.

Routine Visiting.

The routine visiting of schools, to receive reports of teachers as to children with defects, is very perfunctory. Unless it is patent even to a layman that a child is ill and requires attention, no thorough examination is made. The majority of cases are simply looked at in the schoolroom, and in very few instances is a child required to go to the doctor's room for examination.

Cost of Inspection.

The cost of inspection might to a material extent account for the laxity and the slipshod style adopted almost all over Germany. The amount paid is the niggardly one of about fourpence for every child of school-going age. A medical officer with 2,400 children under his supervision receives the "magnificent" sum of about £40 per annum. He must examine every child in some places three

times during his scholastic career, and also periodically visit the schools. The remuneration is altogether inadequate for the services, if the school authorities expect them to be carried out in an efficient manner, and at the same time is not calculated to secure the best medical men for the purpose. This cannot be said of the L.C.C.

Notification of Parents.

The presence of the parents at the physical examination is of paramount importance, for various reasons:

1. That any defect may be clearly demonstrated.
2. That parents may be able to see the beneficial effects of treatment in other children.
3. That they may see for themselves that an examination entails neither hardships towards their children nor unnecessary exposure.
4. That if an ophthalmoscopic examination is required, permission may be given the physician to use a mydriatic.

In Germany, so far as can be observed, this rule, which is universal in London (notification of parents before examination) and throughout Great Britain, is not considered necessary. Children are examined by the physician, and a recommendation made to the parents, but nothing is done to see that this is carried out. Some may look upon it as incumbent upon them as parents to have their children treated, but in many cases the recommendation is ignored, and consequently the inspection is of no practical value to the State.

School Nurses.

School nurses are apparently regarded as unnecessary encumbrances in enlightened Germany. In England and America they are now recognized as potent factors in school inspection if the full benefits to be derived from the system are desired. Their importance must not be minimized, particularly—

1. To see that if treatment is recommended it is carried out.
2. To visit infectious cases at their homes, to ascertain if other children in the family are ill.

3. To conserve the time of the medical officer by eliminating cases of infectious and contagious disease in school.

4. To give assistance at the physical examination.

The tendency among English-speaking races is to increase them numerically, as they are considered to be indispensable for the effective working of the whole system of medical inspection in the public schools.

CHAPTER XXIII

CONCLUSION

THE summaries which have been given in connection with the systems of medical inspection in various parts of the world are not intended to be condemnatory, but rather to show the advantages of certain schemes over others, with a view to arriving at a more perfected method than exists at present. Criticism and condemnation may perhaps, in some instances, be somewhat severe, and appear unwarranted, and may not command the approval of some school authorities, but let these remember that we "rise on stepping-stones of our dead selves to higher things." The whole scheme of modern medicine has not yet reached its zenith, and eminent physicians and surgeons of to-day are profiting by the errors and discrepancies of their predecessors. Medical inspection of school-children is as yet an undeveloped science, but should the progress which has taken place during the last ten years be maintained for the next decade or two, we shall probably see the banishment of pediculosis from our schools, contagious diseases almost eliminated, the rising generation raised to a higher plane of physical development, and the parents themselves enlightened to such an extent as to regard it as an integral and essential element in their children's education. When that auspicious day arrives, the unwarranted cynicism and scepticism of many present-day educationists will have been submerged in the deep sea of scientific discovery and progressive legislation.

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